Ten new species of *Plectranthus* L'Her. (Lamiaceae) from Queensland

Paul I. Forster

Summary

Forster, Paul I. (1994). Ten new species of *Plectranthus* L'Her. (Lamiaceae) from Queensland. *Austrobaileya* 4: 159–186 . *Plectranthus actites, P. apricus, P. cyanophyllus, P. dumicola, P. excelsus, P. glabriflorus, P. habrophyllus, P. leiperi, P. megadontus* and *P. pulchellus* are described as new species. All species are illustrated and notes on their distribution, habitat, affinities and conservation status are provided. A key to the species of *Plectranthus* in Queensland is presented.

Key words: *Plectranthus*–Queensland, Australia; *Plectranthus actites, Plectranthus apricus, Plectranthus cyanophyllus, Plectranthus dumicola, Plectranthus excelsus, Plectranthus glabriflorus, Plectranthus habrophyllus, Plectranthus leiperi, Plectranthus megadontus, Plectranthus pulchellus.*

Paul I. Forster, Queensland Herbarium, Meiers Road, Indooroopilly, Qld 4068, Australia

Introduction

Fieldwork in remote and local areas of Queensland has resulted in the discovery of ten new species of *Plectranthus* additional to those already known for the state (Blake 1971, Forster 1991, 1992b,c). These new species are described and illustrated in this paper.

The cumulative discovery of so many new species subsequent to a major revision (Blake 1971) can be attributed to several factors. Firstly, many of the new species have been found in previously unexplored areas, e.g. *P. actites*, *P. arenicola*, *P. cyanophyllus*, *P. leiperi*, *P. minutus* and *P. pulchellus*. Secondly, many occur in areas where botanical exploration has occurred, but where attention has been mainly directed towards documentation of rainforest trees and shrubs, e.g. *P. dumicola*, *P. excelsus*, *P. glabriflorus*, *P. graniticola*, *P. megadontus*, *P. nitidus*, *P. omissus* and *P. torrenticola*. Thirdly, some of the species have been collected previously but misidentified, e.g. *P. habrophyllus* or noted but subsequently neglected, e.g. *P. blakei*.

Speciation in Australian *Plectranthus* has occurred on rocky substrates such as clifflines and pavements on a wide variety of rock types, e.g. basalt, sandstone, rhyolite, trachyte, metamorphics, and many populations are highly disjunct or locally isolated from others. Most Australian *Plectranthus* species will flower within one year from seed, thus creating the potential for a large number of generations in a given habitat. This enables relatively rapid speciation once genetic changes such as mutations occur. There may be few barriers to cross-fertilisation as hybrids are common in cultivation, yet I have found them to be very rare in habitat and do not consider them an important factor in the establishment of neospecies. The genus has at least 30 species in Queensland, and it is likely that this will rise to somewhere between 35 and 40 species with subsequent discoveries or revision of species complexes.

The currently recognised Queensland species may be placed in five informal (artificial) groups on the basis of habit and inflorescence structure. Further subdivision of the largest group, Group 5 is possible in several ways (e.g. sessile gland type, root form of seedling derived plants (data still incomplete for some taxa) and indumentum colour, orientation and composition; however, this is left in abeyance pending investigation of other non-morphological features of the Australian taxa.

Group 1. Perennial subshrubs; inflorescences branched 1–5 times near base; cymes pedunculate; inflorescence bracts not forming a conspicuous coma.

Included species: *scutellarioides* (L.) R.Br.

Accepted for publication 15 April 1994

Group 2. Small perennial herbs with rounded tubers; inflorescences branched 1–5 times near base; cymes sessile; inflorescence bracts not forming a conspicuous coma.

Included species: *glabriflorus* P.I.Forst., *parviflorus* Willd.

Group 3. Annual subshrubs; inflorescences branched one to many times above base; cymes sessile; inflorescence bracts forming a conspicuous woolly coma.

Included species: *congestus* Benth.

Group 4. Perennial subshrubs or shrubs; inflorescences branched one to many times above base; cymes sessile; inflorescence bracts forming a conspicuous woolly coma.

Included species: *foetidus* R.Br., *spectabilis* S.T.Blake.

Group 5. Perennial subshrubs or shrubs; inflorescences branched 1–7 times near base; cymes sessile; inflorescence bracts not forming a conspicuous woolly coma.

Included species: *alloplectus* S.T.Blake, *amicorum* S.T.Blake, *apreptus* S.T.Blake, *apricus* P.I.Forst., *argentatus* S.T.Blake, *blakei* P.I.Forst., *graniticola* P.I.Forst., *gratus* S.T.Blake, *graveolens* R.Br., *dumicola* P.I.Forst., *habrophyllus* P.I.Forst., *leiperi* P.I.Forst., *megadontus* P.I.Forst., *minutus* P.I.Forst., *mirus* S.T.Blake, *nitidus* P.I.Forst., *omissus* P.I.Forst., *pulchellus* P.I.Forst., *suaveolens* S.T.Blake, *torrenticola* P.I.Forst.

Group 6. Perennial subshrubs or shrubs; inflorescences branched 1–7 times near base; cymes sessile; inflorescence bracts forming a conspicuous, but non-woolly coma.

Included species: *actites* P.I.Forst., *diversus* S.T.Blake, *excelsus* P.I.Forst.

Materials and Methods

This study is primarily based on recent collections at BRI and QRS and a large collection of field collected plants maintained in Brisbane. All of the new species have been described from fresh or spirit material and all have been grown under similar conditions of cultivation. A key to the species of the genus in Queensland is presented to enable identification and supersedes my previous one (Forster 1992c). I have also included *P. scutellarioides* in the new key. This plant has been previously listed under *Solenostemon* (Forster 1994), and differs from other Australian species of *Plectranthus* in the pedunculate cymes.

A coma is defined as where the bracts of the inflorescence do not abscise until after or during flower production (e.g. **Fig. 1E**). In some species this coma may comprise many overlapping and densely hairy bracts that coalesce to form one woolly mass, thus giving the inflorescences of species with this feature a most distinctive appearance. This results in the individual flowers all occurring in one 'head' of verticillasters, rather than the verticillasters being well-spaced on the inflorescence branch.

Conservation codings follow the terminology of Briggs & Leigh (1988).

Taxonomy

Key to species of *Plectranthus* in Queensland

Notes: This key works most effectively with fresh material. Hybrids are not accounted for.

1. Cymes pedunculate .... **P. scutellarioides**
   Cymes sessile 2

2. Stems, branches, floral axes and the lower surface of the leaves with divaricate to retrorse, non-glandular trichomes 3
   Stems, branches, floral axes and the lower surface of the leaves with antrorse, non-glandular trichomes 20

3. Leaf lamina with 9–34 teeth on each margin 4
Leaf lamina with 4–10 teeth on each margin 16

4. Stems and/or lower leaf surfaces with dense glandular trichomes in addition to the non-glandular trichomes 5
Stems and lower leaf surfaces lacking or with only scattered glandular trichomes in addition to the non-glandular trichomes 11

5. Lobes of fruiting calyx shorter than tube; lateral lobes 1.5–2 times as long as wide; lower lobes 2.5–4 times as long as wide 6
Lobes of fruiting calyx same length as tube or longer; lateral lobes 2.5–4 times as long as wide; lower lobes 4–5 times as long as wide 9

6. Calyx in flower 2.3–3.3 mm long; upper lobe of fruiting calyx narrower than long 7
Calyx in flower 1.6–2.3 mm long; upper lobe of fruiting calyx wider than long 10

7. Plant completely lacking coloured sessile glands . . . . **P. leiperi**
Plant with coloured sessile glands, if only on the corolla 8

8. Shrub 1–3 m high; foliage fleshy, clammy, lacking sessile glands . . . . **P. excelsus**
Subshrub to 50 cm high; foliage succulent, not clammy, with sessile glands . . . . **P. diversus**

9. Trichomes silver; verticillasters 10–12-flowered; corolla 9.8–12.2 mm long. . . . . **P. torrenticola**
Trichomes uncoloured; verticillasters 12–15-flowered; corolla 7.8–9 mm long . . . . **P. graveolens**

10. Stems and leaves lacking sessile glands; leaf lamina with 7–15 teeth on each margin; racemes sparsely flowered . . . . **P. mirus**
Stems and leaves with sessile glands; leaf lamina with 12–34 teeth on each margin; racemes densely flowered . . . . **P. foetidus**

11. Stems and leaves lacking sessile glands . . . . **P. amboinicus**
Stems and leaves with sessile glands 12

12. Leaf lamina 2–2.5 times as long as wide; petiole 0.1–0.2 times as long as lamina . . . . **P. alloplectus**
Leaf lamina 1–2 times as long as wide; petiole 0.2–0.5 times as long as lamina 13

13. Sessile glands 4-celled 14
Sessile glands 8-celled 15

14. Verticillasters 14–16-flowered . . . . **P. graniticola**
Verticillasters 6–10-flowered . . . . **P. argentatus**

15. Leaf lamina with 7–12 teeth on each margin, verticillasters c. 10-flowered . . . . **P. amicorum**
Leaf lamina with 12–28 teeth on each margin, verticillasters 14–16-flowered . . . . **P. omissus**

16. Stems lacking a tuberous base 17
Stems with a pronounced tuberous base 19

17. Stems rounded in cross-section .... **P. actites**
Stems square in cross-section 18

18. Live foliage silver; corolla > 9 mm long .... **P. suaveolens**
Live foliage green; corolla < 9 mm long .... **P. habrophyllus**

19. Inflorescence axis with dense sessile glands; corolla with trichomes and sessile glands .... **P. parviflorus**
Inflorescence without sessile glands; corolla glabrous .... **P. glabriflorus**

20. Leaf lamina serrate in upper half only .... **P. minutus**
Leaf lamina serrate for entire length 21

21. Subshrubs or shrubs to 1.5 m high; inflorescences with 1–5 branches from near the base, not woolly comose 22
Shrubs 1–2 m high; inflorescences with up to 11 branches from well above the base, woolly comose 31

22. Leaf lamina with 3–6 teeth on each margin .... **P. arenicola**
Leaf lamina with 6–23 teeth on each margin 23

23. Leaf trichomes drying yellow; corolla 13–16 mm long .... **P. blakei**
Leaf trichomes drying uncoloured; corolla 7–12 mm long 24

24. Stems with sessile glands 25
Stems lacking sessile glands 28

25. Live foliage blue-silver; inflorescence axis without glandular trichomes ... **P. cyanophyllus**
Live foliage green; inflorescence axis with glandular trichomes 26

26. Corolla tube > 5 mm long .... **P. apricus**
Corolla tube < 5 mm long 27

27. Foliage fleshy; leaf petiole 1–2 mm wide; leaf lamina teeth 6–9 on each margin, each tooth 4–6 mm long .... **P. megadontus**
Foliage succulent; leaf petiole 4–4.5 mm wide; leaf lamina teeth 12–18 on each margin, each tooth 2–3 mm long .... **P. gratus**

28. Stems, leaves and racemes lacking glandular trichomes .... **P. nitidus**
Stems, leaves and racemes with glandular trichomes 29

29. Subshrub to 1 m high; stems, leaves and racemes with dense glandular trichomes .... **P. dumicola**
Small herbs 40 cm high; stems, leaves and racemes with scattered glandular trichomes 30

30. Leaf undersurface without glandular trichomes and without sessile glands; fruiting calyx 3–4.6 mm long .... **P. pulchellus**
Leaf undersurface with glandular trichomes and with sessile glands; fruiting calyx 4.5–5.5 mm long .... **P. apreptus**

31. Calyx 1.8–2.7 mm long in flower, 3.5–4.5 mm long in fruit; verticillasters 12–20-flowered .... **P. spectabilis**
Calyx 1–1.6 mm long in flower, 2–3.2 mm long in fruit; verticillasters 20–50-flowered .... **P. congestus**

1. **Plectranthus actites** P.I. Forst., **sp. nov.** affinis *P. graveolenti* Benth. a qua habitu valde decumbenti, tereticaulibus, et foliis valde succulentis caulium apicem versus fasciculatis differt. **Typus:** Queensland. LEICHHARDT DISTRICT: Anvil Peak, Hodgson Range, NE of Clermont, 24 Aug 1990, *P.I. Forster* 7255 (holo: BRI [1 sheet + spirit]).

Subshrub to 60 cm high but generally decumbent and pendulous to 150 cm in length; foliage strongly aromatic; non-glandular and glandular trichomes uncoloured, sessile glands 8-celled and red. Stems rounded, the lower parts woody and up to 15 mm thick, seedling derived stems lacking a tuberous base; upper parts with dense, divaricate 8–10-celled non-glandular trichomes to 2 mm long, without glandular trichomes and with scattered sessile glands. Leaves discolorous, petiolate; petiole 3–8 mm long, 2–2.5 mm wide, with sparse, divaricate 6–10-celled non-glandular trichomes to 1.5 mm long, with sparse glandular trichomes to 0.5 mm long and with scattered sessile glands; lamina broadly-ovate, succulent, 15–40 mm long, 10–32 mm wide, serrate with 7 or 8 teeth on each margin, but no secondary teeth; upper surface green, veins impressed, with dense, antrorse 8–10-celled non- glandular trichomes to 2.5 mm long, with dense glandular trichomes to 0.5 mm long and without sessile glands; lower surface silver-green, veins raised, with dense divaricate to antrorse, 6–10-celled non-glandular trichomes to 0.8 mm long, with dense glandular trichomes to 0.4 mm long and with scattered sessile glands. Inflorescence up to 10 cm long, comprising 1 pedunculate branch 4–10 cm long; verticillasters 10-flowered, 5–13 mm apart; cymes sessile; axis square in cross-section, with divaricate, scattered 8–10-celled non-glandular trichomes to 0.8 mm long, with dense glandular trichomes to 0.4 mm long and with scattered sessile glands; bracts deltoid, 4–4.5 mm long, 5–5.5 mm wide, forming a coma, with dense, divaricate 8–10-celled non-glandular trichomes to 1.2 mm long, with scattered glandular trichomes to 0.5 mm long and with scattered sessile glands; pedicels c. 2 mm long and 0.2 mm diameter, with divaricate, sparse 4–6-celled non-glandular trichomes to 0.2 mm long, with dense glandular trichomes to 0.1 mm long and without sessile glands. Flowering calyx 1.7–2 mm long, with dense, divaricate 4–8-celled non-glandular trichomes to 0.5 mm long, with dense glandular trichomes to 0.2 mm long and with sparse sessile glands. Fruiting calyx 3.5–4 mm long, with scattered 4–8-celled non-glandular trichomes to 0.5 mm long, with scattered glandular trichomes to 0.2 mm long and with sparse sessile glands; upper lobe broadly ovate, 1.8–2 mm long, 1.8–2 mm wide; lateral lobes triangular, c. 1.5 mm long, 1–1.2 mm wide; lower lobes lanceolate-falcate, 1.7–2 mm long, 0.7–0.9 mm wide. Corolla 10–11 mm long, purple; tube 5.6–6 mm long, abruptly curved at 110–120° 2–2.2 mm from base, slightly inflated upwards, glabrous apart from scattered, divaricate 2-celled non-glandular trichomes to 0.2 mm long; upper lobes semi-circular, c. 2 mm long and 2 mm wide, with scattered 2–4-celled non-glandular trichomes to 0.4 mm long, with scattered glandular trichomes to 0.2 mm long and with scattered sessile glands; lateral lobes oblong, c. 2 mm long and 1 mm wide, glabrous; lower lobe broadly ovate, 5–5.3 mm long, 4.8–5 mm wide, with sparse non-glandular trichomes to 0.4 mm long, without glandular trichomes and with scattered sessile glands. Filaments filiform, 7–8 mm long, purple, fused for c. 4 mm from base; anthers c. 0.6 mm long and 0.4 mm wide. Style filiform, 7–8 mm long, purple. Nutlets ± circular in outline, ± flattened, 0.8–0.9 mm long, 0.8–0.9 mm wide, c. 0.4 mm thick, glossy brown; surface smooth. **Fig. 1.**

Distribution and habitat: *P. actites* is known only from the type locality at Anvil Peak (Lords Table Mountain) in central Queensland. Anvil Peak is an isolated trachyte peak and no similar habitats are in close proximity. *P. actites* grows at c. 500 m altitude as a lithophyte on the trachyte cliffs of the peak in association with *Ficus platypoda*. No other species of *Plectranthus* were observed in the habitat.

Notes: *P. actites* is a highly succulent species that appears well adapted to the severe habitat conditions where it occurs. While many Australian species of *Plectranthus* occur on clifflines and rock outcrops, the branches tend to sprawl or straggle over edges, *P. actites* has a definite decumbent habit. This decumbent habit is common to many cliff dwelling

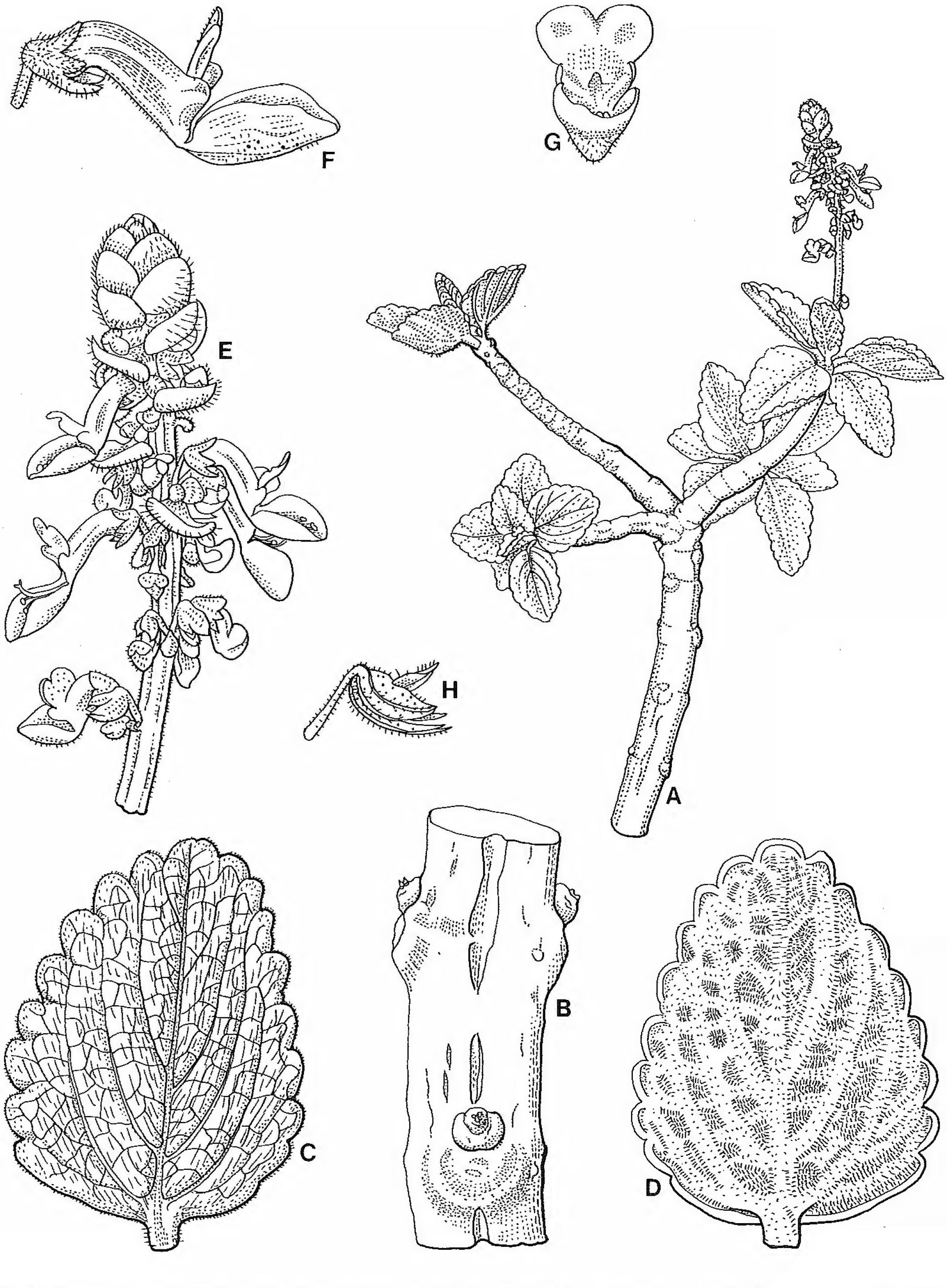

Fig. 1. *Plectranthus actites*. A. mature flowering stem × 0.6. B. portion of stem showing rounded form x 2. C. leaf lamina viewed from above × 2. D. leaf lamina viewed from below × 2. E. upper portion of inflorescence x 2. F. flower viewed from side × 4. G. flower viewed from front × 4. H. fruiting calyx viewed from side x 4. All from live material of *Forster* 7255. Del. W. Smith.

succulents, particularly amongst members of the Crassulaceae and Cactaceae in other parts of the World such as southern Africa and Mexico but is rarely encountered in Australia.

P. actites has inflorescences that are non-woolly comose, a feature that is shared with *P. excelsus* and *P. diversus*. *P. actites* is greatly disjunct to these species and does not appear closely related on other features. This new species appears to be allied to *P. graveolens* but differs from that species in the usually decumbent habit, the highly succulent leaves that are closely clustered towards the stem tips and the rounded stems in cross-section. In comparison *P. graveolens* is erect, has fleshy leaves that are widely spaced on the stems and has square stems in cross-section.

Conservation status: The type locality is within a declared National Park and there are no immediate threats to the cliff habitat. The suggested conservation coding is 1RC.

Etymology: The specific epithet is from the Greek *actites* (a watcher) and alludes to the plants' habitat high above the surrounding countryside.

2. Plectranthus apricus P.I. Forst., **sp. nov.** affinis *P. grato* S.T. Blake a qua habitu fruticoso lignoso ramosissimo usque 1.5 m alto, foliis carnosis non odoris, et corollae tubo longiore (6–6.8 mm longis) differt. **Typus:** Queensland. COOK DISTRICT: Turtle Rock area, Laura sandstone escarpment, 22 Jan 1993, *P.I. Forster* 12831 & *A.R. Bean* (holo: BRI [2 sheets + spirit]; iso: K, MEL, QRS distribuendi).

Subshrub to 1.5 m high; foliage with very slight sweet scent; non-glandular and glandular trichomes uncoloured, sessile glands 8-celled and orange. Stems square, erect or rarely straggling, the lower parts woody and up to 5 cm thick; seedling derived stems lacking a tuberous base; upper parts with sparse, antrorse, 6–8-celled non glandular trichomes to 1 mm long, without glandular trichomes and with dense sessile glands. Leaves discolorous, petiolate; petiole 3–20 mm long, 1–1.4 mm wide with sparse, antrorse, 4–6-celled non-glandular trichomes to 0.6 mm long, without glandular trichomes and with dense sessile glands; lamina ovate to broadly ovate, fleshy, 15–50 mm long, 8–35 mm wide, serrate with 6–11 teeth on each margin and with 1 or more secondary teeth; upper surface green, veins impressed, with sparse, antrorse, 6–8-celled non-glandular trichomes to 1 mm long, without glandular trichomes and with scattered sesssile glands; lower surface silver-green, veins raised, with dense, antrorse, 6–8-celled non-glandular trichomes to 0.6 mm long, without glandular trichomes and with dense sessile glands. Inflorescence up to 20 cm long, comprising 1–3-pedunculate branches near the base, each branch 7–18 cm long; verticillasters 10–12-flowered, 6–13 mm apart; cymes sessile; axis square in cross-section with sparse, antrorse, 2–4-celled non-glandular trichomes to 0.5 mm long, with scattered glandular trichomes to 0.2 mm long and with scattered sessile glands; bracts narrowly ovate, 1.4–1.6 mm long, 0.5–0.6 mm wide, not forming a coma, with scattered 2–4-celled non-glandular trichomes to 0.4 mm long, without glandular trichomes and without sessile glands; pedicels 3–4 mm long, c. 0.2 mm diameter, with sparse, antrorse 2–4-celled non-glandular trichomes to 0.2 mm long, with sparse glandular trichomes to 0.2 mm long and without or with only widely scattered sessile glands. Flowering calyx 2.5–2.8 mm long, with sparse, antrorse, 2–4-celled non-glandular trichomes to 0.4 mm long, without glandular trichomes and with dense sessile glands. Fruiting calyx 4.2–4.5 mm long, with sparse, 2–4-celled non-glandular trichomes to 0.2 mm long, without glandular trichomes and with sparse sessile glands; upper lobe broadly ovate, 2.5–2.7 mm long, 2–2.2 mm wide; lateral lobes lanceolate, 2.5–2.6 mm long, c. 0.8 mm wide; lower lobes lanceolate-falcate, 2.6–2.7 mm long, c. 0.8 mm wide. Corolla 10–12 mm long, pale-lilac although mainly cream towards base; tube 6–6.8 mm long, abruptly curved at c. 90° 2.5–3 mm from base, slightly inflated, ± glabrous apart from an occasional divaricate, 2–4-celled non-glandular trichome; upper lobes subcircular, 1.8–2 mm long, 2–2.2 mm wide, with scattered, divaricate, 2–4-celled non-glandular trichomes, without glandular trichomes and with sparse sessile glands; lateral lobes oblong, c. 0.8 mm long and 0.2 mm wide, glabrous; lower lobe broadly ovate, 5–5.4 mm long, 4.3–4.7 mm wide, with scattered, divaricate to antrorse, 2–4-celled non-glandular trichomes to 0.4 mm long, often lopsided. Filaments filiform, 6–7 mm long, fused for c. 3 mm at base, cream; anthers c. 0.4 mm long and 0.3 mm wide. Style filiform, 6–8 mm long, lilac-cream. Nutlets subcircular in outline, ± flattened, c. 0.8 mm long, 0.6 mm wide and 0.5 mm thick, glossy black-brown, surface smooth. **Fig. 2.**

***Specimens examined*: Queensland.** COOK DISTRICT: Laura sandstone area N of Laura River near Early Man Site, May 1975, *Byrnes* 3329 (BRI, QRS).

***Distribution and- habitat*:** *P. apricus* is known from the Laura sandstone escarpment on southern Cape York Peninsula. Plants grow in sunny situations in shallow, skeletal soils on sandstone pavements and clifflines in association with plants such as *Calytrix leptophylla*, *Grevillea pteridiifolia*, *Lepto-spermum brachyandrum* and *Acacia humifusa*. No other species of *Plectranthus* were observed at this locality.

***Notes*:** *P. apricus* was first collected by Norm Byrnes in 1975 during his pioneering survey of the Laura sandstones; however, his specimen was distributed as *P. parviflorus*. At 1.5 m in height, *P. apricus* is one of the tallest of the Australian *Plectranthus* species and appears closely allied to *P. gratus* from which it differs in being a much-branched woody shrub to 1.5 m high, with ± scentless fleshy leaves and a long corolla tube (6– 6.8 mm long). *P. gratus* is a small subshrub to 50 cm high with strongly scented succulent leaves and a short corolla tube (3.8–4 mm long).

***Conservation status*:** The Laura sandstones are well known as an area of endemics. Other locally restricted species occurring within the general area of collection of the type of *P. apricus* include *Hibbertia laurana* and *Homoranthus tropicus*.

When the type collection was made, plants of *P. apricus* were uncommon with no more than 20 adults seen, although seedlings were quite numerous. The area is poorly explored and it is probable that further populations exist of this species. At this stage, a suggested conservation coding is 2K.

***Etymology*:** The specific epithet is derived from the Latin *apricus* (sunny) and refers to this species occurring in sunny spots at the type locality.

3. Plectranthus cyanophyllus P.I. Forst., **sp. nov.** affinis *P. aprico* P.I. Forster a qua foliis caesiis, axe inflorescentiae etrichomatibus glandulosis, et calyce floris longiore (plus quam 3 mm longo) differt. **Typus:** Queensland. NORTH KENNEDY DISTRICT: Mt Abbot, 50 km W of Bowen, 27 Oct 1992, *A.R. Bean* 5188 (holo: BRI! [2 sheets + spirit]; iso: K!, MEL!, QRS! distribuendi).

Subshrub to 50 cm high, foliage with slightly sweet scent; non-glandular and glandular trichomes uncoloured, sessile glands 8-celled and red. Stems square, erect to straggling, the lower parts woody and up to 12 mm thick, seedling derived stems lacking a tuberous base; upper parts with dense antrorse 6–10-celled non-glandular trichomes to 0.5 mm long, without glandular trichomes and with scattered sessile glands. Leaves concolorous, silver, petiolate; petiole 3–15 mm long, 1.5–2 mm wide, with dense antrorse 6–10-celled non-glandular trichomes to 0.8 mm long, with scattered glandular trichomes to 0.2 mm long and scattered sessile glands; lamina broadly ovate, fleshy, 7–40 mm long, 8–32 mm wide, serrate with 6–9 teeth on each margin and occasionally with 1 or more secondary teeth; upper surface with veins impressed and with dense, antrorse 6–10-celled non-glandular trichomes to 2 mm long, without glandular trichomes and with scattered sessile glands; lower surface with veins raised, with dense, antrorse 6–10-celled non-glandular trichomes to 2 mm long, without glandular trichomes and with sparse sessile glands. Inflorescence up to 10 cm long, comprising 1–3 pedunculate branches from near the base, each branch 4–10 cm long; vertillasters 10–12-flowered, 8–10 mm apart; cymes sessile; axis square in cross-section with dense, antrorse 4–8-celled non-glandular trichomes to 0.5 mm long, without glandular trichomes and with scattered sessile glands; bracts broadly ovate, 2.5–3 mm long, 2–2.3 mm wide, not forming a coma, with dense, antrorse 2– 4-celled non-glandular hairs

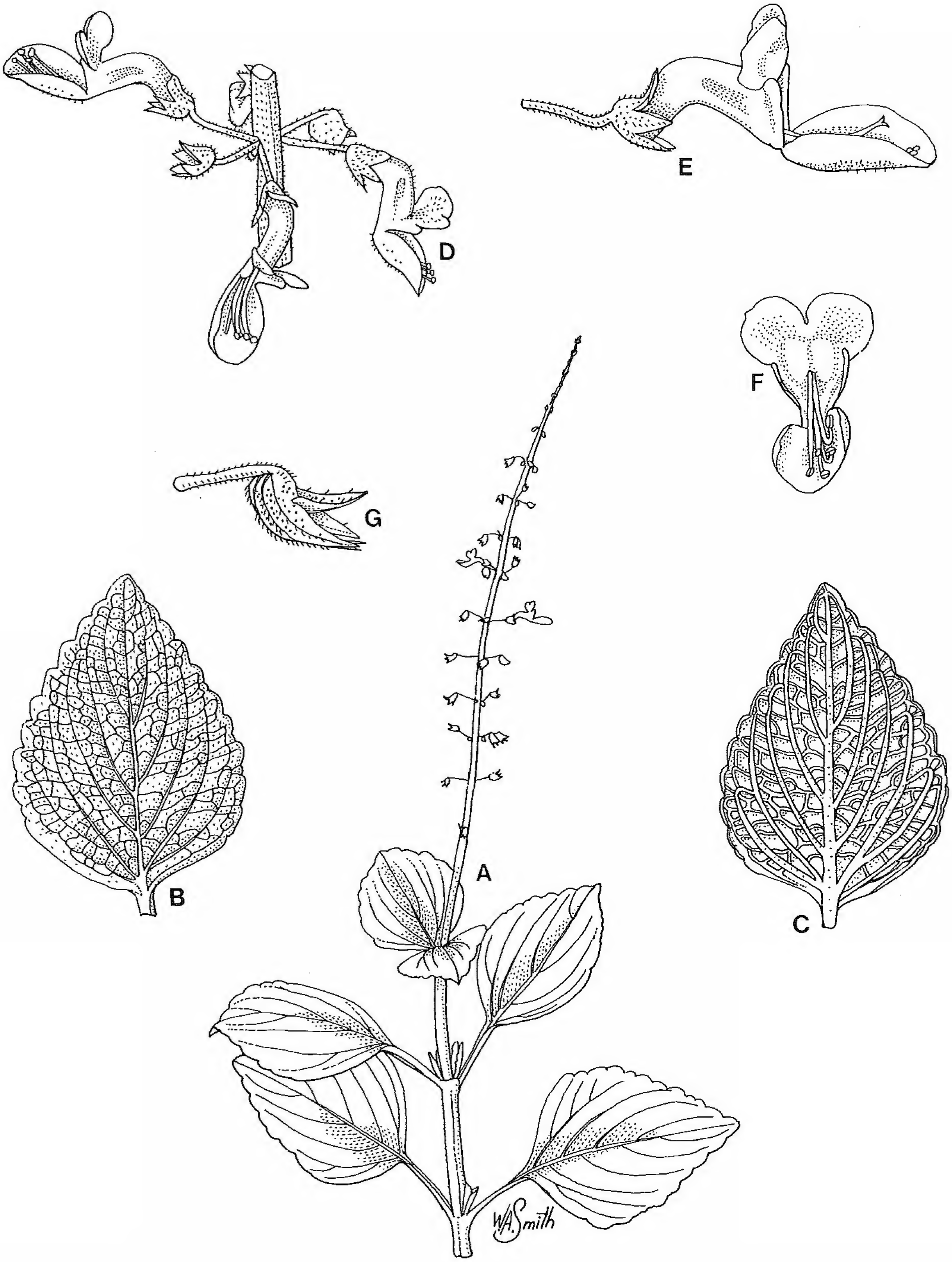

Fig. 2. *Plectranthus apricus.* A. apical portion of young flowering stem × 0.6. B. leaf lamina viewed from above × 1. C. leaf lamina viewed from below × 1. D. verticillaster × 2. E. flower viewed from side × 4. F. flower viewed from front × 4. G. fruiting calyx viewed from side × 4. All from live material of *Forster* 12831 & *Bean*. Del. W. Smith.

to 0.5 mm long, without glandular trichomes and with sparse sessile glands; pedicels 2–2.4 mm long, c. 0.3 mm diameter, with sparse, antrorse 2–4-celled non- glandular trichomes to 0.2 mm long, without glandular trichomes and with scattered sessile glands. Flowering calyx 3–3.4 mm long, with sparse to dense, antrorse 2–4-celled non-glandular trichomes to 0.5 mm long, without glandular trichomes and with dense sessile glands. Fruiting calyx 4.5–4.8 mm long, with sparse, 2–6-celled non-glandular trichomes to 0.4 mm long, without glandular trichomes and with sparse sessile glands; upper lobe broadly ovate, 1.7–1.8 mm long, 1.4–1.5 mm wide; lateral lobes lanceolate, 1.8–2 mm, 0.7–0.8 mm wide; lower lobes lanceolate-falcate, 2.7–3 mm long, c. 0.5 mm wide. Corolla 9–10 mm long, light-purple; tube 6–6.6 mm long, abruptly curved at 80–90° 2.5–2.7 mm from base, slightly inflated upwards, glabrous apart from scattered sessile glands at top; upper lobes subcircular, c. 1 mm long and 1.5 mm wide, with scattered 2–4-celled non-glandular trichomes to 0.2 mm long, without glandular trichomes and with dense sessile glands; lateral lobes oblong, 0.8–1 mm long, c. 0.5 mm wide, glabrous apart from a few scattered sessile glands; lower lobe oblongly ovate, 4–4.5 mm long, 3–3.2 mm wide, with scattered, antrorse 2–4-celled non- glandular trichomes to 0.2 mm long, without glandular trichomes and with scattered sessile glands. Filaments filiform, 7–8 mm long, fused for c. 5 mm from bottom, purple; anthers c. 0.5 mm long and 0.3 mm wide. Style filiform, 7–8 mm long, purple. Nutlets ± circular in outline, ± flattened, c. 0.8 mm long, 0.8 mm wide and 0.4 mm thick, glossy dark brown, surface smooth. **Fig. 3.**

***Specimens examined*: Queensland.** NORTH KENNEDY DISTRICT: Mt Abbot, 50 km W of Bowen, Aug 1992, *Bean* 4860 (BRI, QRS).

***Distribution and habitat*:** Known only from Mt Abbot in North Kennedy district where plants grow on rock outcrops and pavements in an open woodland dominated by *Acacia solandri*, *Eucalyptus shirleyi* and *Lophostemon confertus*. Other species of *Plectranthus* present on the mountain are *P. graveolens* and *P. congestus*.

***Notes*:** This plant was first found by Tony Bean who endured heat, thirst and other hardships on the remote slopes of Mt Abbot to obtain both herbarium and live material. *P. cyanophyllus* is a very distinct species and it is difficult to suggest close relatives on morphological grounds. There are perhaps some affinities with *P. apricus* from which it differs in the silver-blue foliage, the inflorescence axis without glandular trichomes and the longer flowering calyx (> 3 mm long). *P. apricus* is a large woody larger shrub with green foliage, and has glandular trichomes on the inflorescence axis as well as a shorter flowering calyx (<3 mm long).

***Conservation status*:** Mt Abbot is notable for a number of highly disjunct populations of several plant species (A.R. Bean, pers. comm. 1993), but *P. cyanophyllus* appears to be the only endemic. This species is common in several different populations on Mt Abbot and there are no immediate threats to the habitat. A conservation coding of 2R is suggested.

***Etymology*:** The specific epithet is derived from the Greek *cyano* (blue) and *phyllus* (leaf) and refers to the bluish foliage of this species.

4. Plectranthus dumicola P.I. Forst., **sp. nov.** affinis *P. aprepto* S.T. Blake a qua habitu suffrutice lignoso usque 1 m alto, foliis caulibusque valde odoris, et foliis axibusque inflorescentiarum trichomatibus glandulosis densis differt. **Typus:** Queensland. COOK DISTRICT: 31 km along road to Leo Creek Mine, McIlwraith Range, 8 Jun 1992, *P.I. Forster* 10268, *M.C. Tucker & G. Kenning* (holo: BRI [2 sheets + spirit]; iso: K, MEL, QRS distribuendi).

Subshrub to 1 m high; foliage with slight sweet scent; non- glandular and glandular trichomes uncoloured, sessile glands 8- celled and yellow. Stems square, erect to straggling, the lower parts woody and up to 10 mm thick; seedling derived stems lacking a tuberous base; upper parts with dense, antrorse 2–4-celled non-glandular trichomes to 0.2 mm long, with dense glandular trichomes to 0.2 mm long and without sessile glands. Leaves discolorous, petiolate; petiole 3–20 mm long, 2–3 mm wide, with dense, retrorse 2–4-celled non-glandular

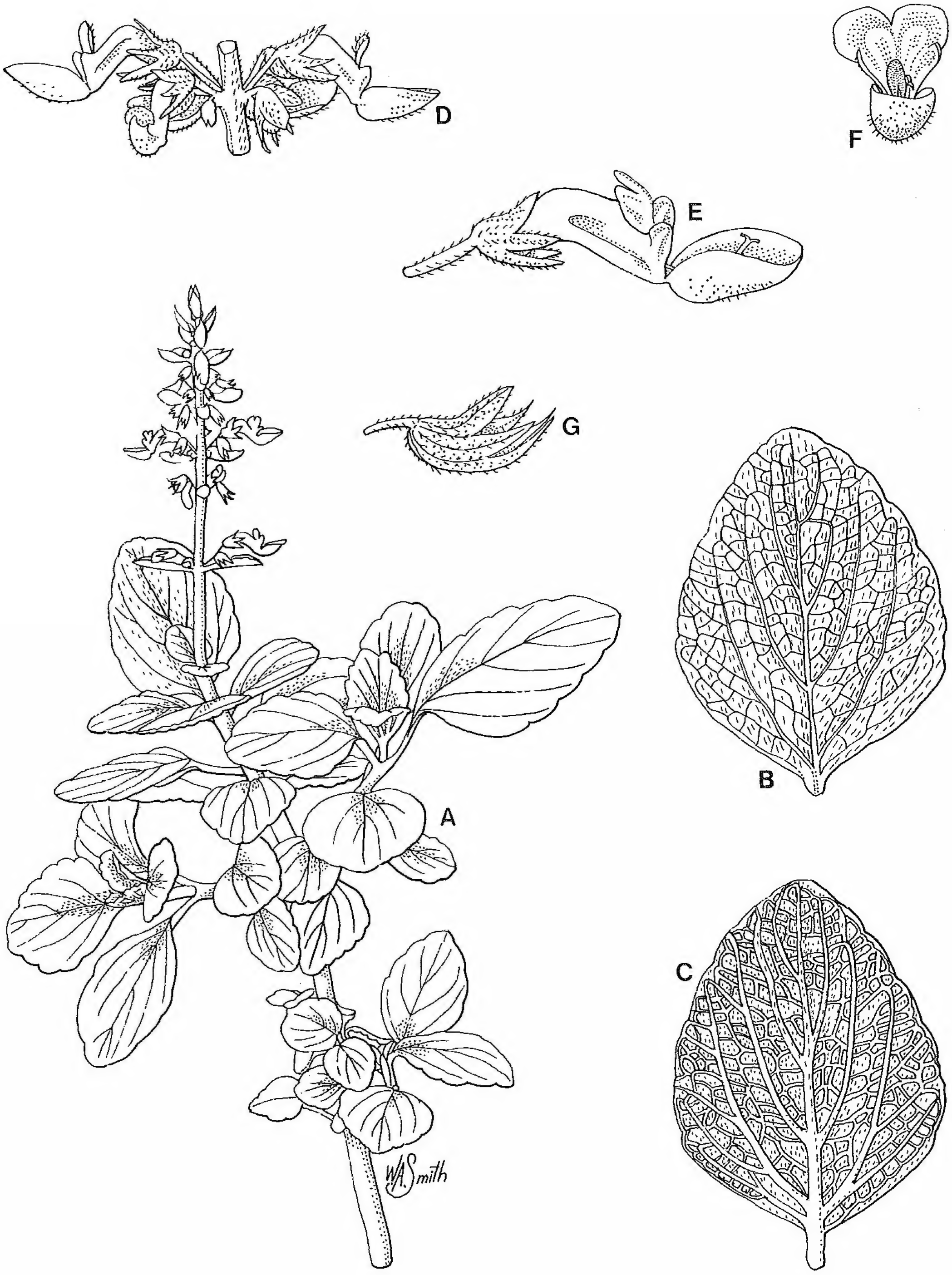

Fig. 3. *Plectranthus cyanophyllus*. A. apical portion of mature flowering stem × 0.8. B. leaf lamina viewed from above × 1. C. leaf lamina viewed from below × 1. D. verticillaster × 2. E. flower viewed from side x 4. F. flower viewed from front × 4. G. fruiting calyx viewed from side × 4. All from live material of *Bean* 5188. Del. W. Smith.

trichomes to 0.2 mm long, with dense glandular trichomes to 0.2 mm long and without sessile glands; lamina broadly ovate, fleshy, 20–95 mm long, 12–85 mm wide, often lop-sided at base, serrate with (7) 8–15 teeth on each margin and sometimes with 1 or more secondary teeth; upper surface silver-green, veins impressed, with sparse, divaricate 4–6-celled non-glandular trichomes to 0.3 mm long, with sparse glandular trichomes to 0.1 mm long and without sessile glands; lower surface pale green, veins raised, with sparse to dense, divaricate 4–6-celled non-glandular trichomes to 0.4 mm long, with sparse glandular trichomes to 0.2 mm long and with scattered sessile glands. Inflorescence up to 30 cm long, comprising 1–3 pedunculate branches from near the base, each branch 8–30 cm long; verticill-asters 10–12-flowered, 7–16 mm apart; cymes sessile; axis square in cross-section, with scattered, divaricate 2-cellnon-glandular trichomes to 0.2 mm long, with dense glandular trichomes to 0.2 mm long and without sessile glands; bracts deltoid, c. 1.4 mm long and 1.4 mm wide, not forming a coma, without non-glandular trichomes, with sparse glandular trichomes to 0.2 mm long and with sessile glands; pedicels 3.5–6 mm long, c. 0.2 mm diameter, without non-glandular trichomes, with sparse glandular trichomes to 0.2 mm long and without sessile glands. Flowering calyx 2.8–3 mm long, without non-glandular trichomes, with sparse to dense glandular trichomes to 0.2 mm long and without sessile glands. Fruiting calyx 4–4.5 mm long; upper lobe broadly ovate, 1.7–2 mm long, 1.7–2 mm wide, glabrous apart from a few scattered 2-celled non-glandular trichomes to 0.2 mm long; lateral lobes lanceolate-falcate, 1.8–2 mm long, c. 0.8 mm wide, glabrous; lower lobes lanceolate, 2.3–2.5 mm long, 1.6–1.8 mm wide, glabrous. Corolla 10–12 mm long, lilac to pale purple; tube 5.1–6.8 mm long, abruptly curved at 80–90° 2.6–3 mm from base, slightly inflated upwards, glabrous; upper lobes subcircular, 1.8–2 mm long, 1.5–2.2 mm wide, without non-glandular trichomes, with scattered glandular trichomes to 0.2 mm long and with scattered sessile glands; lateral lobes broadly ovate, 1.8–2 mm long, 0.9–1 mm wide, glabrous; lower lobe broadly ovate, 5–5.8 mm long, 3–4.9 mm wide, with scattered 2-celled non-glandular trichomes to 0.2 mm long, with scattered glandular trichomes to 0.1 mm long and with scattered sessile glands. Filaments filiform, 9–11 mm long, fused for 3–4 mm from base, lilac; anthers 0.5–0.7 mm long, 0.4–0.5 mm wide. Style filiform, 9–11 mm long, lilac. Nutlets not seen. **Fig. 4.**

Specimens examined: **Queensland.** COOK DISTRICT: 28.5 km along road to Leo Creek Mine, McIlwraith Range, Jun 1992, *Forster* 10246 (BRI); T.R. 9, Lankelly Creek, Jun 1992, *Forster* 10344 *et al.* (BRI, L, MEL, QRS); Lankelly Creek, on western fall of McIlwraith Range, Oct 1969, *Webb & Tracey* 9684 (BRI).

Distribution and habitat: *P. dumicola* is known from semi-deciduous mesophyll vineforests on the western fall of the McIlwraith Range on Cape York Peninsula. Plants grow on the edges of or slightly within the vineforest canopy. *P. congestus* is also present in the habitat.

Notes: *P. dumicola* appears to have been first collected by Len Webb and Geoff Tracey during their pioneering survey of the rain-forests of the McIlwraith Range; however, their specimen was distributed as *P. graveolens*. *P. dumicola* is a distinct, if uninspiring, species of *Plectranthus* that has some morphological affinities to *P. apreptus* from which it differs in being a woody subshrub to 1 m high with scented foliage and stems, and with leaves and inflorescence axes that have dense glandular trichomes. In comparison *P. apreptus* is a small herb with scentless foliage, and stems, leaves and inflorescence axes with scattered glandular trichomes and is restricted to the Wet Tropics of north-east Queensland. There are also some broad similarities between *P. dumicola* and the central and southern Queensland species *P. graveolens*; however *P. dumicola* is readily distinguishable from that species in its much thinner and broader leaves, the less noticeable scent to the foliage and its leaves closely clustered towards the stem tips. *P. graveolens* has ± succulent leaves, strongly scented foliage and its leaves tend to be loosely clustered on the stem tips.

Conservation status: This species was encountered several times in an extended foray into the McIlwraith Range in June 1992. It is not threatened at this stage. No conservation coding is allocated.

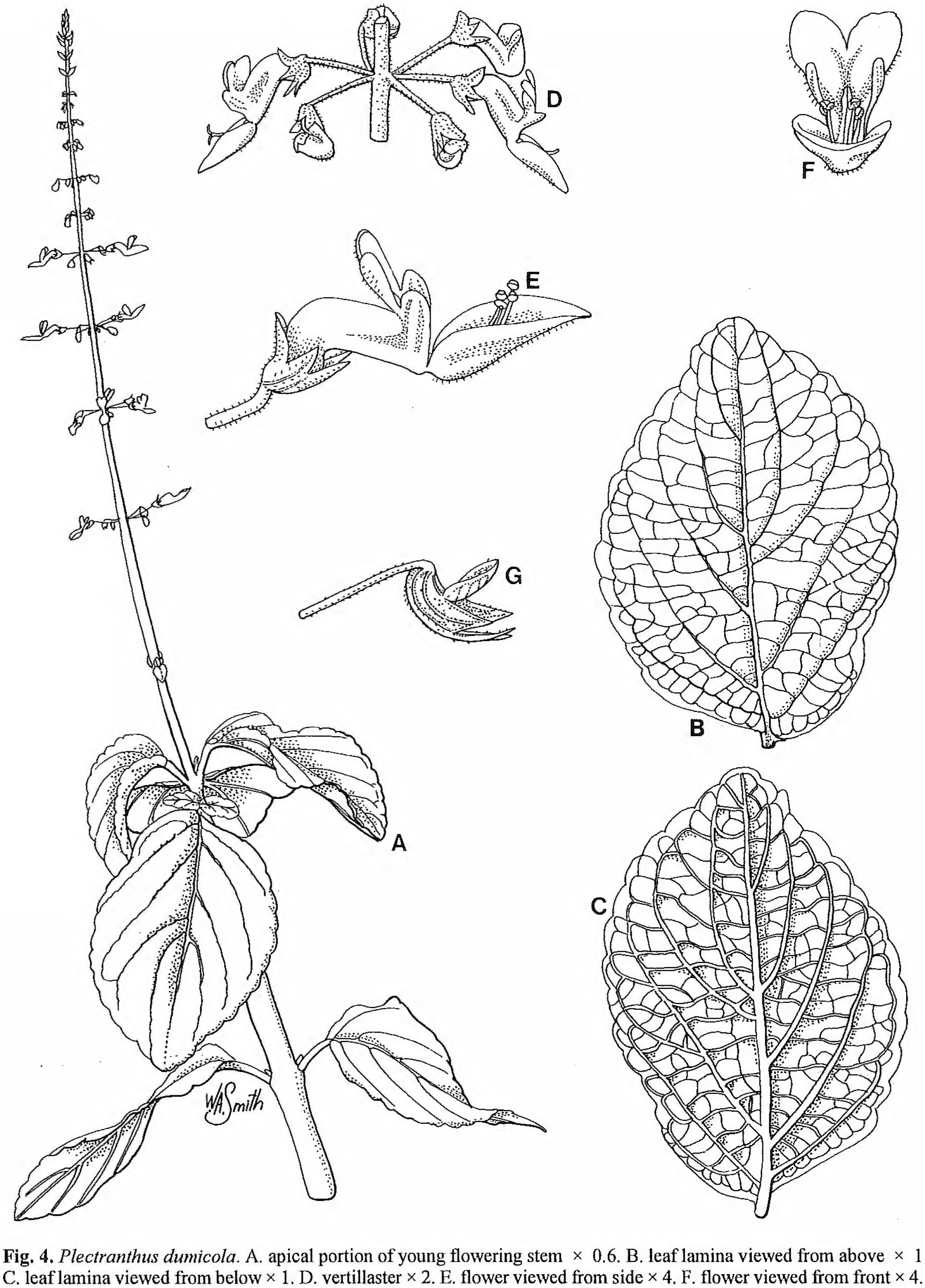

Fig. 4. *Plectranthus dumicola*. A. apical portion of young flowering stem × 0.6. B. leaf lamina viewed from above × 1 C. leaf lamina viewed from below × 1. D. vertillaster × 2. E. flower viewed from side × 4. F. flower viewed from front × 4. G . fruiting calyx viewed from side × 4. A–F from live material of *Forster* 10268 *et al.*; G from dried material of *Forster* 10344 *et al.* Del. W. Smith.

***Etymology*:** The specific epithet is derived from the Latin *dumu* (thicket) and *cola* (loving) and alludes to the tendency of this species to grow in vineforest thickets.

5. Plectranthus excelsus P.I. Forst., **sp. nov.** affinis *P. diverso* S.T. Blake a qua foliis carnosis ad tactum tractuosis, habitu fruticoso (1–3 m alto), et glandibus sessilibus coloratis in caulibus foliisque carentibus differt. **Typus:** Queensland. Cook District: Garraway Hill, 11 Jul 1993, *P.I. Forster* 13543 & *M.C. Tucker* (holo: BRI [3 sheets + spirit]; iso: A, AD, CBG, K, L, MEL, QRS distribuendi).

Subshrub or shrub 1–3 m high; foliage clammy to the touch and with strong sweet scent; non-glandular and glandular trichomes uncoloured, sessile glands 8-celled and red. Stems square, erect or rarely straggling, the lower parts woody and up to 40 mm thick; seedling derived stems lacking a swollen tuberous base, but with thickened taproots; upper parts with dense, retrorse 6–8-celled non-glandular trichomes to 0.5 mm long, with sparse glandular trichomes to 0.2 mm long and without sessile glands. Leaves discolorous, petiolate; petioles 5–85 mm long, 1–2 mm wide, with dense, retrorse 6–8-celled non-glandular trichomes to 0.5 mm long, with sparse to dense glandular trichomes to 0.2 mm long and without sessile glands; lamina broadly ovate to broadly ovate, fleshy, 20–190 mm long, 20–120 mm wide, serrate with 18–30 teeth on each margin and often with 1 or more secondary teeth; upper surface green, veins impressed, with sparse, antrorse 6–8-celled non-glandular trichomes to 1 mm long, without glandular trichomes and without sessile glands; lower surface pale green, veins raised, with dense, retrorse 6–8-celled non-glandular trichomes to 1 mm long, with sparse to dense glandular trichomes to 0.2 mm long and without sessile glands. Inflorescence up to 22 cm long, comprising 1–7 pedunculate branches from near the base, each branch 5–22 cm long; verticillasters 20–24 flowered, densely clustered or up to 15 mm apart; cymes sessile; axis square in cross-section, with dense, retrorse 6–8-celled non- glandular trichomes to 1 mm long, without glandular trichomes and without sessile glands; bracts broadly ovate, 4–6.5 mm long, 3.5–5 mm wide, forming a coma, with sparse to dense 6–8-celled non-glandular trichomes to 1 mm long, without glandular trichomes and without sessile glands; pedicels 1.7–2 mm long, c. 0.2 mm diameter, with sparse divaricate, 6–8-celled non-glandular trichomes to 0.5 mm long, with scattered glandular trichomes to 0.2 mm long and without sessile glands. Flowering calyx 2.2–2.5 mm long, with dense antrorse, 6–8-celled non-glandular trichomes to 1 mm long, with scattered glandular trichomes to 0.2 mm long and without sessile glands. Fruiting calyx 3–3.3 mm long, with sparse to dense divaricate, 6–8-celled non-glandular trichomes to 1 mm long, without glandular trichomes and without sessile glands; upper lobe broadly ovate, 1.5–1.8 mm long, 1.5–2 mm wide; lateral lobes lanceolate-triangular, 1.3–1.5 mm long, 0.6–0.7 mm wide; lower lobes lanceolate-falcate, 1.3–1.5 mm long, 0.4–0.5 mm wide. Corolla 8–10.6 mm long, pale purple; tube 4.5–5 mm long, abruptly curved at c. 90° 2.6–3 mm from base, slightly inflated upwards, glabrous apart from an occasional non-glandular trichome; upper lobes subcircular, 1–1.2 mm long, 0.8–1.8 mm wide, with sparse divaricate, 4–8-celled non-glandular trichomes to 0.8 mm long, without glandular trichomes and with scattered sessile glands; lateral lobes subovate, 1–1.5 mm long, 0.8–1.3 mm wide, with scattered divaricate, 4–8-celled non-glandular trichomes to 0.8 mm long, without glandular trichomes and with scattered sessile glands; lower lobe broadly ovate, 3.8–5 mm long, 2.5–3.1 mm wide, with scattered divaricate, 4–8-celled non-glandular trichomes to 0.5 mm long, without glandular trichomes and with sparse sessile glands. Filaments filiform, 8–9 mm long, fused for 5–5.4 mm from base, lilac; anthers c. 0.5 mm long and 0.3 mm wide. Style filiform, 8–9 mm long, lilac. Nutlets ± circular, 0.7–0.8 mm long, 0.7–0.8 mm wide, c. 0.3 mm thick, dark glossy brown, surface smooth. **Fig. 5.**

***Specimens examined*:** **Queensland.** Cook District: Garraway Hill, Jul 1991, *Forster* 9019 (BRI, MEL, QRS); W of Tozer Gap, Jun 1993, *Hyland* 14816 (QRS); Upper Pascoe River, Jul 1972, *Dockrill* 472 (QRS).

***Distribution and habitat*:** *P. excelsus* is known from several populations between the Pascoe River and Mt Tozer in the area to the west of

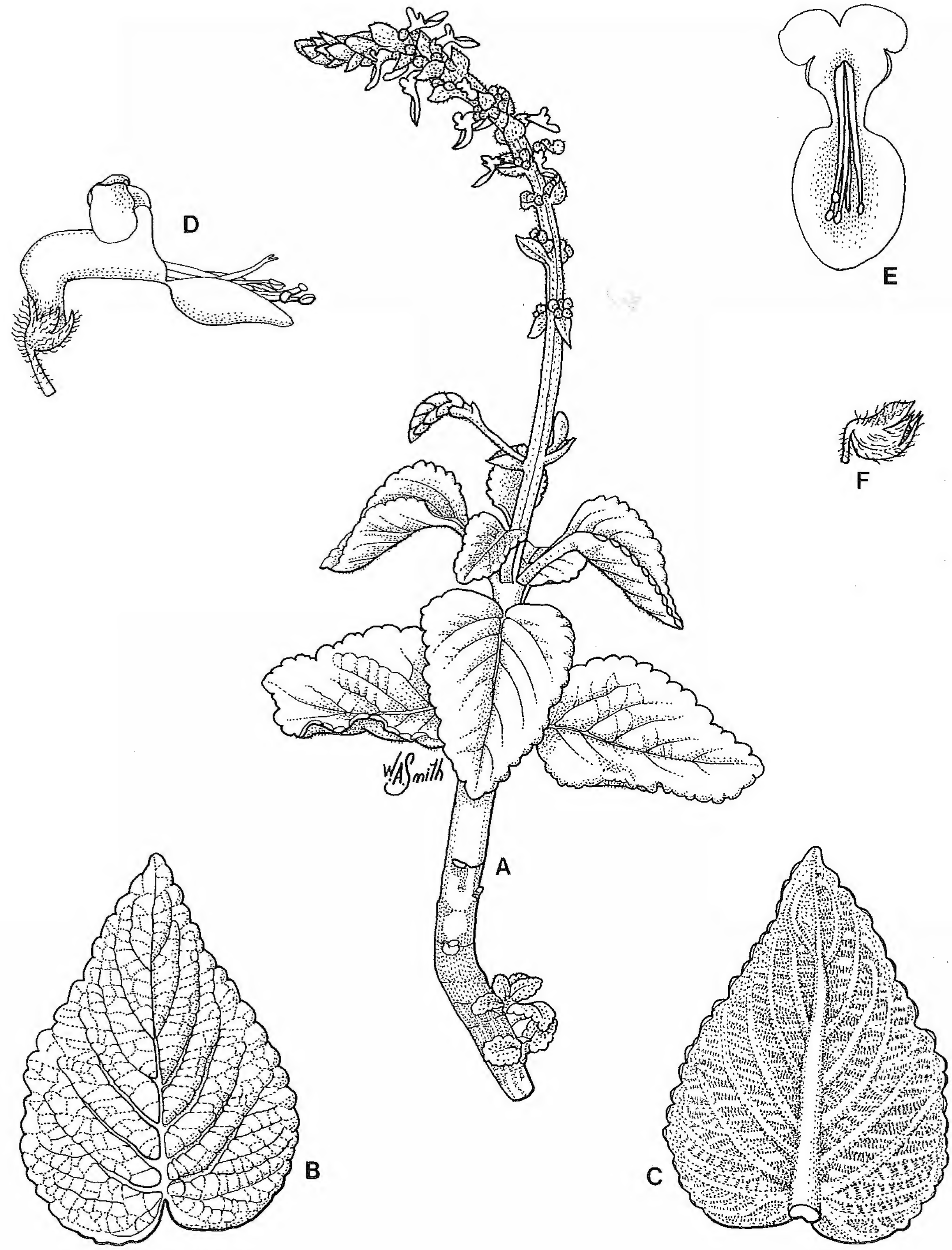

Fig. 5. *Plectranthus excelsus*. A. apical portion of young flowering stem × 0.8. B. leaf lamina viewed from above × 1. C. leaf lamina viewed from below × 1. D. flower viewed from side × 4. E. flower viewed from front x 4. F. fruiting calyx viewed from side × 4. All from live material of *Forster* 13543 & *Tucker*. Del. W. Smith.

Iron Range on Cape York Peninsula. Plants grow on loose granite rockpiles adjacent to rainforest on low ridges and hills. Other plants in close association include *Hoya australis* subsp. *tenuipes*, *Peperomia blanda* var. *floribunda*, *Tetrameles nodiflora*, *Drynaria quercifolia* and *Schleffera* spp. The habitat is seasonally dry and the surrounding vegetation although predominantly evergreen has an element of deciduousness. Many of the plants on the granite rockpiles either tap subterranean water-supplies or have water storage tissue. *P. excelsus* has both fleshy foliage and large water storing tuberous roots, all morphological characteristics of succulent plants often found in such habitats.

Notes: *P. excelsus* was first collected over twenty years ago by Alick Dockrill. It is notable for being the tallest of the known Australian species in the genus and with individuals up to 3 m in height, must surely rival even some of the East African species with respect to being the tallest in the genus worldwide. It is a most distinctive species in the live state and has strongly scented and very clammy foliage. It appears to be allied to *P. diversus* sens. lat. that also grows in the Iron Range area, but that species always grows on stable clifflines and never on rockpiles. *Plectranthus excelsus* differs most noticeably from *P. diversus* in its habit (1–3 m tall branching shrubs as opposed to basally branching subshrubs to 0.5 m tall) and foliage (fleshy, clammy, well-spaced leaves without sessile glands as opposed to succulent, non-clammy, clustered leaves with sessile glands).

Conservation status: This species is common at the type locality and at Hyland's locality cited above (B. Gray, pers. comm.) and is undoubtedly common throughout the known range. No conservation coding is considered necessary at this stage.

Etymology: The specific epithet is derived from the Latin *excelsus* (lofty or high) and refers to the tall stature of the plants at the type locality.

6. Plectranthus glabriflorus P.I. Forst., **sp. nov.** affinis *P. parvifloro* Willd. a qua foliis subglabris nitidis atrovirentibus, et corolla glabra differt. **Typus:** Queensland. North Kennedy District: Herberton, 20 Jan 1993, *P.I. Forster* 12814 & *A.R. Bean* (holo: BRI [1 sheet + spirit]; iso: QRS distribuendi).

Fleshy herb to 20 cm high; foliage scentless; non-glandular and glandular trichomes uncoloured, sessile glands absent. Stems square, erect to straggling, the lower parts not woody and up to 3 mm diameter; seedling derived stems with a tuberous base; upper parts with sparse retrorse 3–6-celled non-glandular trichomes up to 0.8 mm long and without glandular trichomes. Leaves discolorous, petiolate; petiole 5–16 mm long, 0.8–1 mm diameter, with scattered to sparse retrorse 2–6-celled non-glandular trichomes up to 0.8 mm long and without glandular trichomes. Lamina broadly ovate, fleshy, 10–30 mm long, 10–26 mm wide, serrate with 3–5 teeth on each margin, often with 1 or more secondary teeth; upper surface dark green and glossy, veins impressed, with scattered antrorse 2–4-celled non-glandular trichomes up to 0.2 mm long and without glandular trichomes; lower surface green-purple, veins raised, with scattered divaricate to retrorse 2–4-celled non-glandular trichomes up to 0.2 mm long and without glandular trichomes. Inflorescence up to 200 mm long, with 1–3 pedunculate branches from near the base, each branch 25–35 mm long; verticillasters 10–12 flowered, 2–10 mm apart; cymes sessile; axis square in cross-section, with sparse divaricate to retrorse, 2–4-celled non-glandular trichomes up to 0.5 mm long and with scattered glandular trichomes up to 0.2 mm long; bracts broadly ovate, 2–2.4 mm long, 1.5–2 mm wide, not forming a coma, glabrous, ciliate with sparse 2–6-celled non- glandular trichomes up to 0.6 mm long; pedicels 3–3.8 mm long, c. 0.3 mm diameter, with sparse antrorse, 2–4-celled non-glandular trichomes up to 0.1 mm long and without glandular trichomes. Flowering calyx 2–2.3 mm long, with scattered to sparse antrorse, 2–4-celled non-glandular trichomes up to 0.1 mm long and without glandular trichomes. Fruiting calyx 3.6–4 mm long, ± glabrous; upper lobe ovate, 1.8–2 mm long, 1.8–2 mm wide; lateral lobes lanceolate, 2–2.3 mm long, c. 0.5 mm wide; lower lobes lanceolate-falcate, 1.8–2 mm long, c. 0.6 mm wide. Corolla 9–9.6 mm long, glabrous, light-purple; tube 5–5.4 mm long, slightly curved at an angle of

10° 1.8–2 mm from base, slightly inflated upwards; upper lobes subcircular, 1.7–1.8 mm long, 1.7–1.8 mm wide; lateral lobes oblong, c. 1 mm long, c. 0.6 mm wide; lower lobe oblong, 4–4.3 mm long, 3.8–4 mm wide. Filaments filiform, 7–9 mm long, fused for c. 2 mm in bottom of tube, lilac; anthers c. 0.3 mm long and 0.2 mm wide. Style filiform, 7–9 mm long, pale purple. Nutlets ± circular in outline, ± flattened, c. 0.9 mm long, 0.8 mm wide and 0.4 mm thick, glossy black-brown, surface smooth. **Fig. 6.**

Specimens examined: **Queensland.** Cook District: Herberton Range, May 1991, *Forster* 8367 (BRI); ditto, Jan 1993, *Bean* 5713 (BRI); Ravenshoe, Apr 1937, *Thurston* 124 (QRS). **Cultivated**: Cult. at Rainworth, Brisbane (ex plant collected at Herberton), Nov 1992, *Forster* 12393 (BRI, QRS).

Distribution and habitat: Known from the Herberton Range area between Atherton and Herberton and near Ravenshoe on the Atherton Tableland in north-east Queensland. Plants grow on granite rockoutcrops and slabs in open forest dominated by eucalypts and *Allocasuarina torulosa*. *P. amicorum* is also present in this habitat.

Notes: *P. glabriflorus* was probably first collected as long ago as 1937 by Thurston. This fruiting-only collection was cited by Blake (1971) under *P. parviflorus*. *P. glabriflorus* is closely allied to *P. parviflorus* and shares the characteristic of a well-developed tuberous stem base on seedling-derived material. *P. glabriflorus* differs from *P. parviflorus* in the near glabrous dark-green foliage that is glossy above, and the completely glabrous corolla. The glabrous corolla also serves to distinguish *P. glabriflorus* from all other known Australian species of *Plectranthus*.

Conservation status: This is a restricted plant that is not common in the two localities where I have observed it. At the Herberton locality a wide diversity of plants is present, including another local endemic, *Tylophora rupicola* P.I. Forst. (Forster 1992a). A suggested conservation coding for *P. glabriflorus* is 2R. Potential threats are local picnickers, fire and indiscriminate track construction. In January 1994, a new road had been just constructed in the Herberton locality and this was resulting in widespread damage to the vegetation.

Etymology: The specific epithet is derived from the Latin *glabris* (glabrous) and *floris* (flower) and alludes to the glabrous nature of the corolla in the species in comparison with all other known Australian taxa.

7. Plectranthus habrophyllus P.I. Forst., **sp. nov.** affinis *P. suaveolenti* S.T. Blake a qua foliis virentibus et trichomatibus longis glandulosis, glandibus sessilibus carentibus, et corolla breviore (minus quam 9 mm longa) differt. **Typus:** Queensland. Moreton District: Ormeau, CSR land near watertower, 12 Nov 1992, *P.I. Forster* 12391 & *G. Leiper* (holo: BRI [2 sheets + spirit]; iso: K, MEL distribuendi).

Subshrub to 40 cm high; foliage ± sweetly scented; non-glandular and glandular trichomes uncoloured, sessile glands absent. Stems square, erect to straggling, the lower parts ± woody and up to 7 mm diameter; seedling-derived stems lacking a tuberous base; upper parts with dense, retrorse 6–10-celled non-glandular trichomes up to 1.2 mm long and with sparse glandular trichomes to 0.8 mm long. Leaves discolorous, petiolate; petiole 5–17 mm long, 1–1.5 mm wide, with dense divaricate to retrorse, 6–10-celled non-glandular trichomes up to 1.2 mm long and with sparse glandular trichomes up to 0.5 mm long. Lamina broadly ovate, fleshy, 21–45 mm long, 14–35 mm wide, serrate with 4–8 teeth on each margin, secondary teeth rarely present; upper surface green, veins impressed, with dense, antrorose, 6–10-celled non-glandular trichomes up to 1.2 mm long and with dense glandular trichomes up to 0.8 mm long; lower surface pale-green, veins raised, with dense, divaricate 6–10-celled glandular trichomes up to 1.8 mm long and with dense glandular trichomes up to 0.8 mm long. Inflorescence up to 20 cm long, comprising 1–3 pedunculate branches from near the base; each branch 8–16 cm long; verticillasters 10–12-flowered, 3–15 mm apart; pedicels 3.8–5 mm long, c. 0.2 mm diameter, without non-glandular trichomes and with dense glandular trichomes up to 0.1 mm long; cymes sessile; axis square in cross-section, with scattered, divaricate 2–4- celled non-glandular trichomes up to 0.2 mm long and with dense glandular trichomes up to 0.4 mm long; bracts broadly

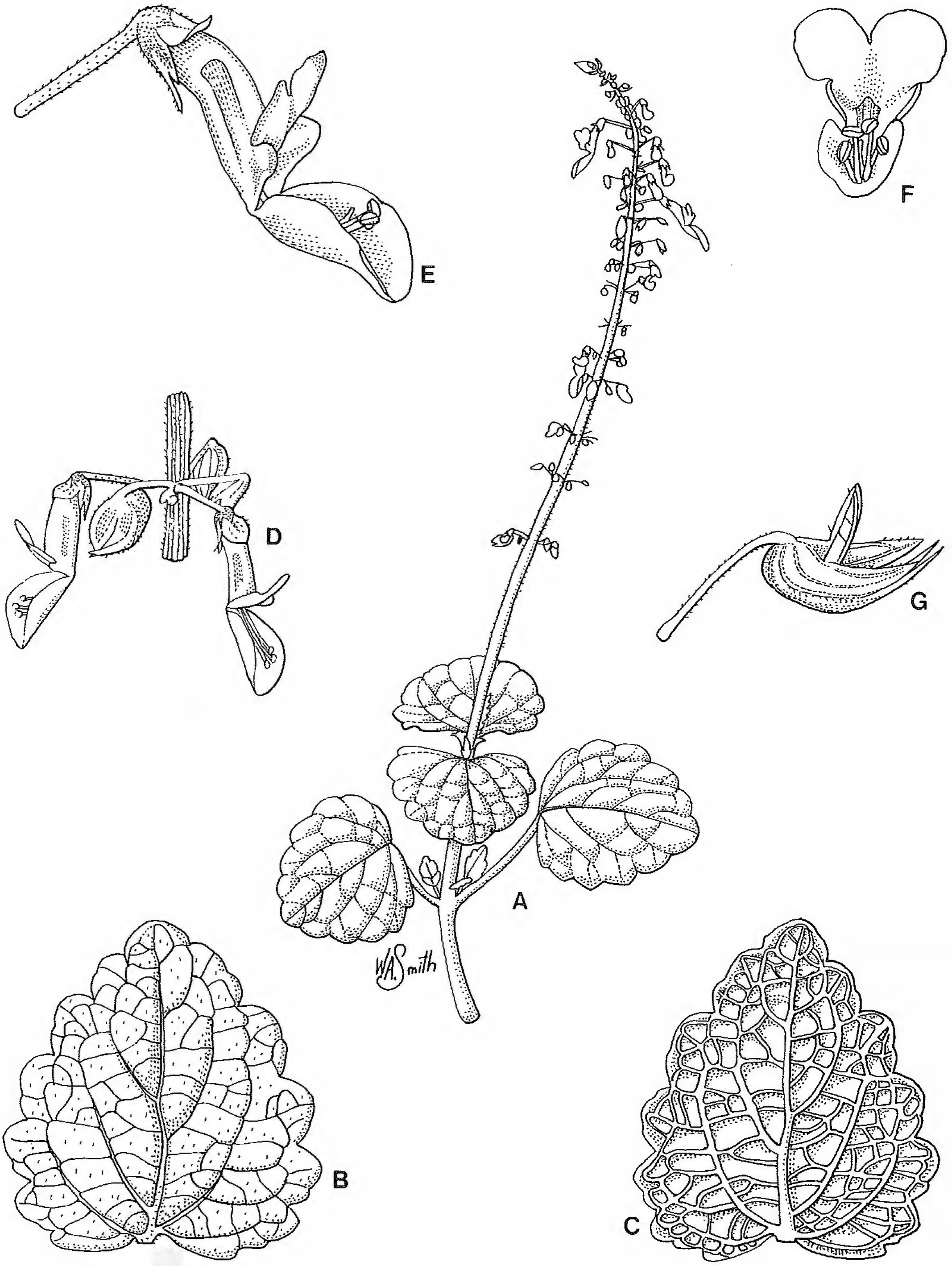

Fig. 6. *Plectranthus glabriflorus*. A. apical portion of young flowering stem × 1. B. leaf lamina viewed from above × 2. C. leaf lamina viewed from below × 2. D. vertillaster × 3. E. flower viewed from side × 6. F. flower viewed from front × 6. G. fruiting calyx viewed from side × 6. All from live material of *Forster* 12393. Del. W. Smith.

ovate, 2–2.2 mm long, 1.8–2 mm wide, not forming a coma, with sparse, antrorse 2–4-celled non-glandular trichomes up to 0.3 mm long and with scattered glandular trichomes up to 0.1 mm long. Flowering calyx 1.9–2.3 mm long, with sparse, antrorse 2–4-celled non-glandular trichomes up to 0.2 mm long and with sparse to dense glandular trichomes up to 0.1 mm long. Fruiting calyx 4.8–5.2 mm long; upper lobe ovate, 1.8–2 mm long, 1.8–2 mm wide, with scattered, divaricate, 2-celled non-glandular trichomes up to 0.1 mm long and without glandular trichomes; lateral lobes lanceolate, 1.8–2 mm long, 0.9–1 mm wide, ± glabrous; lower lobes lanceolate-falcate, 2.5–2.7 mm long, 0.5–0.7 mm wide, ± glabrous. Corolla 7–8.8 mm long, light-purple; tube 4–4.6 mm long, slightly curved at 10–15° 1.5–2.2 mm from base, slightly inflated upwards, glabrous; upper lobes subcircular, 1.8–2.1 mm long, 1.8–2.2 mm wide, with scattered, antrorse 2–4-celled non-glandular trichomes up to 0.1 mm long and without glandular trichomes; lateral lobes oblong, 1.3–1.5 mm long, 0.8–1 mm wide, glabrous; lower lobe broadly oblong, 3.6–4.5 mm long, 3.2–3.8 mm long, with an occasional scattered, divaricate 2–4-celled non-glandular trichome to 0.1 mm long and without glandular trichomes. Filaments filiform, 7–8 mm long, c. 0.2 mm diameter, lilac, fused for 2.3–2.5 mm from base; anthers c. 0.4 mm long and 0.2 mm wide. Style filiform, 7–8 mm long, lilac. Nutlets ± circular in outline, ± flattened, c. 1.2 mm long, 0.8 mm wide & 0.4 mm thick, glossy brown, surface smooth. **Fig. 7.**

***Specimens examined*:** **Queensland.** Moreton District: Opossum Creek, Goodna, Aug 1980, *Bird* [AQ343788] (BRI); ditto, Dec 1992, *Bird & Orford* s.n. (BRI); 1 km S of White Rock, 6 km S of Redbank Plains, Dec 1992, *Bird & Leiper* [AQ564715] (BRI); Woogaroo Creek, Goodna, 1 km E of Jones road, Mar 1993, *Bird* [AQ569028] (BRI); Six Mile Creek Environmental Park, 1 km S of Redbank Plains, Feb 1993, *Bird* [AQ568634] (BRI); Cult. at Beenleigh (ex plant collected at Ormeau), Sep 1992, *Forster* 11553 (BRI, MEL).

***Distribution and habitat*:** *P. habrophyllus* is known from several populations close to Brisbane near Ormeau and Ipswich. Plants grow on chert or sandstone outcrops, often in shaded situations near to vineforest. *P. parviflorus* is also present in the habitat.

***Notes*:** This plant was first discovered by Lloyd Bird in 1980 at Opossum Creek; however, the specimen was then misidentified as *P. suaveolens* and filed at BRI under that name. Glen Leiper, while investigating the flora of the Ormeau area, discovered the second known population and brought material to the attention of the author. Subsequently the species was found by Lloyd Bird in several populations near Ipswich.

P. habrophyllus is distinctive in its complete lack of sessile glands and the abundance of long-stalked glandular trichomes. While *P. habrophyllus* is closely allied to *P. suaveolens* it differs from that species in its green foliage with long shaggy, glandular trichomes, the complete lack of sessile glands and the shorter corolla (< 9 mm long). In comparison *P. suaveolens* has silver foliage with closely appressed non- glandular trichomes, scattered sessile glands and a longer corolla (> 9 mm long).

***Conservation status*:** This species is uncommon and the Ormeau population is threatened with destruction due to a proposed quarry at the locality. The Ipswich populations are relatively secure in the short-term; however, continuing urban sprawl and industrial development are likely to present problems for maintaining the known populations. A suggested conservation coding is 2E.

***Etymology*:** The specific epithet is derived from the Greek *habro* (shaggy) and *phyllus* (leaf) and refers to the indumentum of trichomes that is prominent on the stems and leaves of this species.

8. Plectranthus leiperi P.I. Forst., **sp. nov.** affinis *P. suaveolenti* S.T. Blake a qua dentibus foliorum numerosioribus, sine glandibus sessilibus, lobis lateralibus corollae perlongioribus et distincte oblongis et lobis superis erectis, et calyce in fructu breviore differt. **Typus:** Queensland. Moreton District: Diana's Bath area, D'Aguilar Range, 9 km E of Somerset Dam, 19 Jun 1993, *P.I. Forster* 13348, *G. Leiper & D. Orford* (holo: BRI [2 sheets + spirit]; iso: MEL distribuendi).

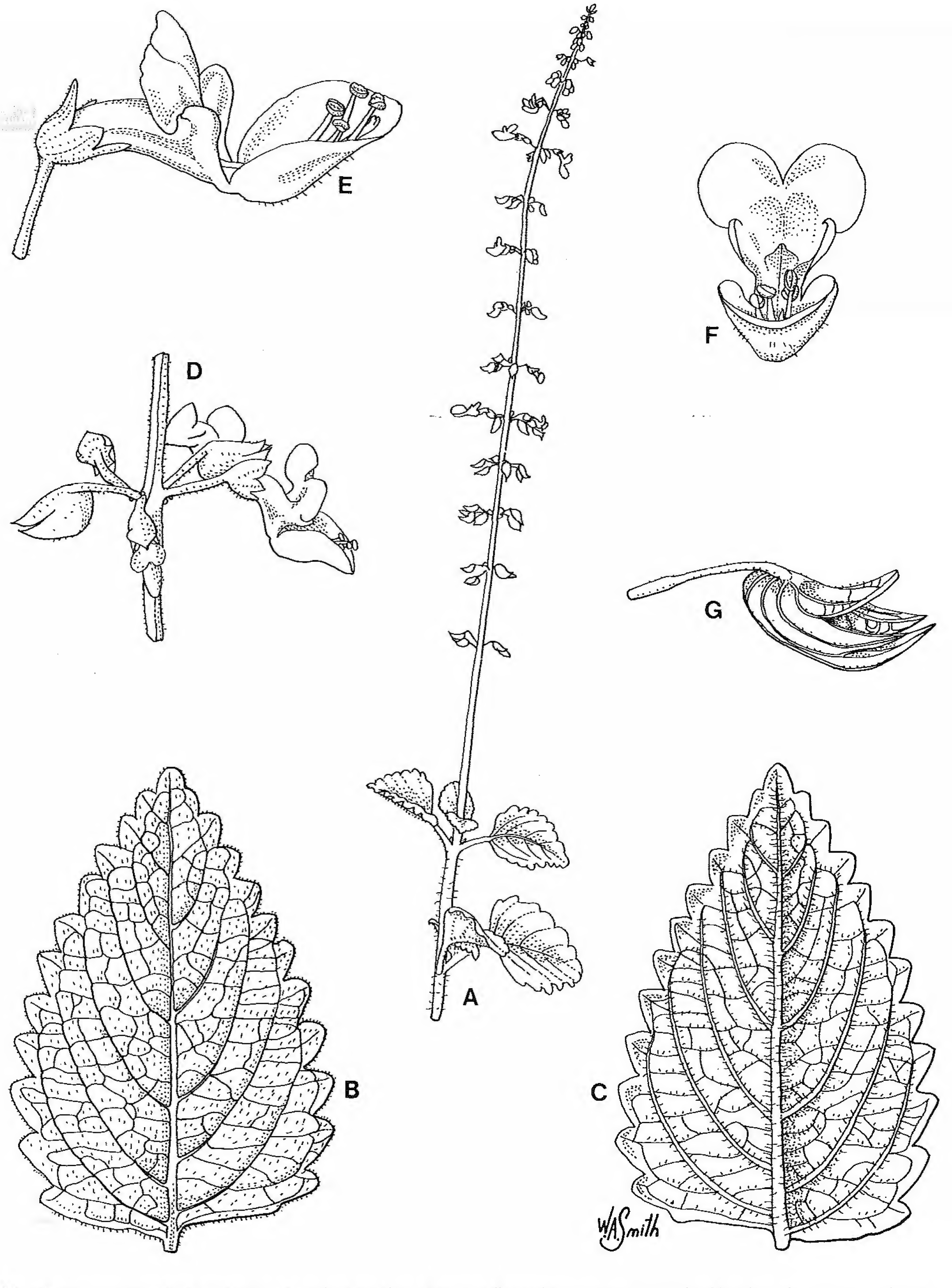

Fig. 7. *Plectranthus habrophyllus*. A. apical portion of young flowering stem × 0.6. B. leaf lamina viewed from above × 1. C. leaf lamina viewed from below × 1. D. vertillaster × 3. E. flower viewed from side × 6. F. flower viewed from front × 6. fruiting calyx viewed from side × 6. All from live material of *Forster* 11553 & *Leiper*. Del. W. Smith.

Herb or subshrub to 50 cm high; foliage with strong, sweet scent; non-glandular and glandular trichomes uncoloured, sessile glands absent. Stems square, erect or often straggling, the lower parts woody and up to 6 mm thick; seedling derived stems lacking a tuberous base; upper parts with sparse, retrorse, 8–10-celled non-glandular trichomes to 0.8 mm long and with sparse glandular trichomes. Leaves discolorous, petiolate; petioles 8–25 mm long, 2–2.5 mm wide with dense, retrorse, 6–10-celled non-glandular trichomes to 0.8 mm long and with dense glandular trichomes; lamina ovate, fleshy, 15–55 mm long, 15–55 mm wide, serrate with 11–17 teeth on each margin and often with 1 or more secondary teeth; upper surface silver-green, veins impressed, with sparse, divaricate, 6–10-celled non-glandular trichomes to 1 mm long and with sparse glandular trichomes; lower surface pale green, veins raised, with dense, divaricate, 6–10-celled non-glandular trichomes and with dense glandular trichomes. Inflorescence up to 180 mm long, comprising 1–3-pedunculate branches from near the base, each branch 25–170 mm long; verticillasters 10–12-flowered, 6–18 mm apart; cymes sessile; axis square in cross-section, with sparse, retrorse, 6–8-celled non-glandular trichomes to 0.7 mm long and with sparse glandular trichomes; bracts broadly obovate, 1.8–2 mm long, c. 1.5 mm wide, not forming a coma, with sparse, divaricate, 4–6-celled non-glandular trichomes to 0.5 mm long and with scattered glandular trichomes; pedicels 2–4.1 mm long, c. 0.4 mm diameter, with sparse to dense, retrorse, 4–6-celled non-glandular trichomes to 0.5 mm long and with scattered to sparse glandular trichomes. Flowering calyx 2.3–3 mm long, with dense, divaricate, 4–8-celled nonglandular trichomes to 0.8 mm long and with scattered to sparse glandular trichomes. Fruiting calyx 2.5–3.8 mm long, with scattered, divaricate, 2–4-celled nonglandular trichomes to 0.4 mm long and with scattered glandular trichomes; upper lobe broadly ovate, 1.8–2.7 mm long, 1.8–2.5 mm wide; lateral lobes falcate, 1.8–2.2 mm long, 0.7–1.0 mm wide; lower lobes lanceolate-falcate, 2.1–2.5 mm long, 0.8–0.9 mm wide. Corolla 10–13 mm long, lilac although mainly cream towards base; tube 5–6.7 mm long, curved at 120–130° 2–2.3 mm from base, slightly inflated, glabrous; upper lobes subcircular, 2.5–3 mm long, 2.3–2.5 mm wide, with sparse, divaricate, 2–4-celled non-glandular trichomes to 0.3 mm long and without glandular trichomes; lateral lobes oblong, 1.8–2.2 mm long, 0.6–0.8 mm wide, glabrous; lower lobe oblong-ovate, 5–6.4 mm long, 3–4.5 mm wide, with scattered, divaricate, 2–4-celled non-glandular trichomes to 0.5 mm long and with scattered glandular trichomes. Filaments filiform, 8–11 mm long, fused for c. 4 mm at base, lilac; anthers c. 0.5 mm long and 0.5 mm wide. Style filiform, 8–11 mm long, lilac. Nutlets ± circular in outline, flattened, 0.7–0.8 mm long, 0.7–0.8 mm wide, 0.5–0.6 mm thick, glossy-brown, surface with small tuberculate protuberances. **Fig. 8.**

***Specimens examined*:** **Queensland.** Moreton District: Above Diana's Bath swimming hole, c. 15 km downstream from Somerset Dam near Mt Byron, Feb 1993, *Leiper* [AQ564500] (BRI); Wivenhoe View acreage estate, north-eastern side of Wivenhoe Dam, Crossdale, Mar 1994, *Grimshaw* G556 & *Grimshaw* (BRI).

***Distribution and habitat*:** *P. leiperi* is known from the vicinity of Wivenhoe and Somerset Dams in the Brisbane Valley north-west of Brisbane. At the type locality there are at least six locally disjunct, small (< 100 individuals) populations of this plant. Individuals occur widely scattered over rhyolite rock outcrops and pavements in association with little other vegetation, although bushes of a form of *Leptospermum microcarpum* are often present. A form of *P. graveolens* is also present in the area but is locally allotypic.

***Notes*:** *Plectranthus leiperi* was first collected by Glen Leiper in early 1993. It is allied to *P. suaveolens* and shares the characteristic of a distinctive and strong sweet scent from crushed foliage. *P. leiperi* differs from *P. suaveolens* in its foliage being green, rather than silver in colour, the greater number of leaf teeth, the complete absence of sessile glands, the much longer and noticeably oblong lateral lobes of the corolla, and the shorter fruiting calyx. Its nutlets have small but obvious projections on the surface, a feature that I have not noticed previously in nutlets of any Australian *Plectranthus* species.

***Conservation status*:** Diana's Bath is owned by the South-East Queensland Electricity Board

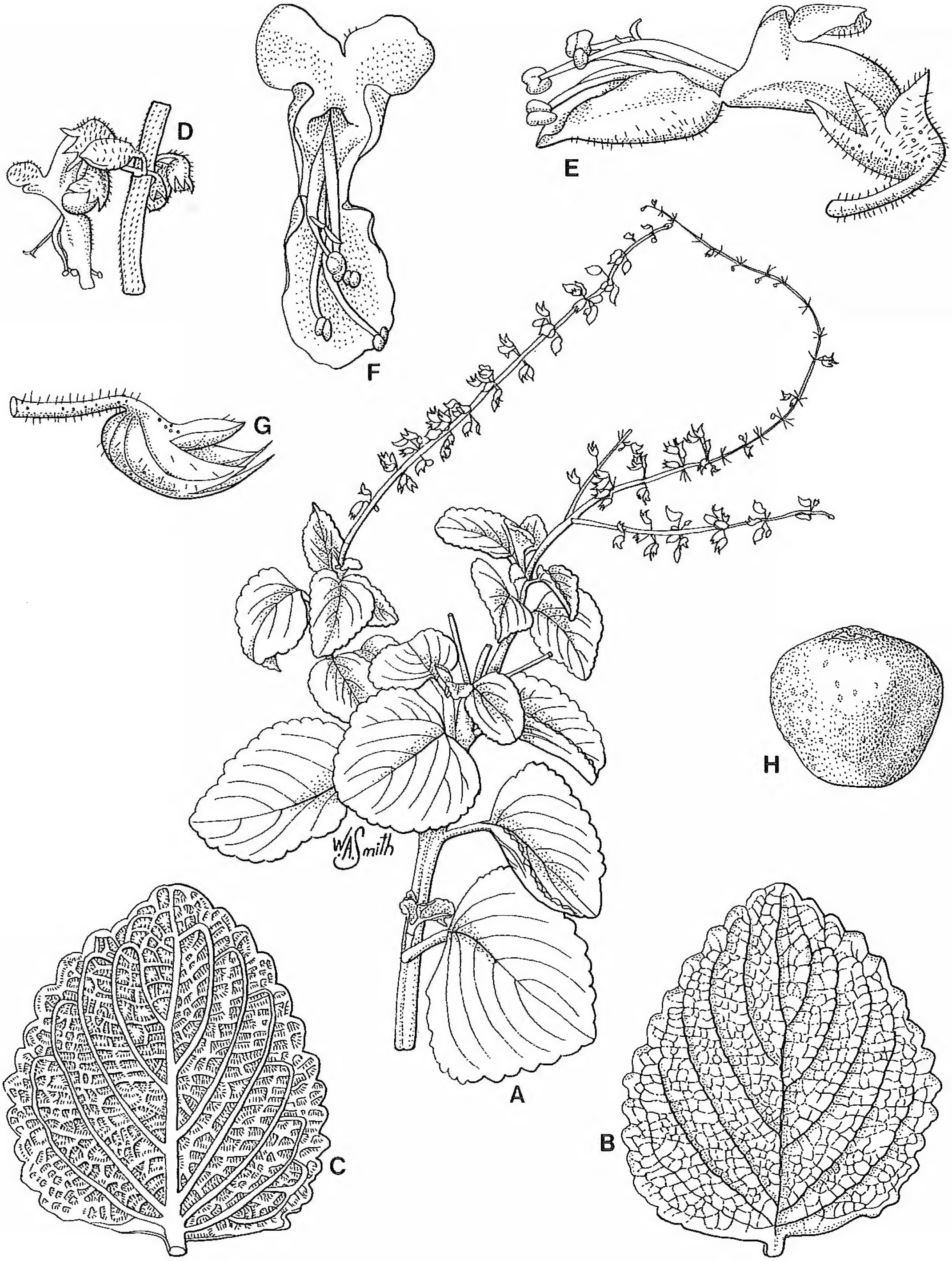

Fig. 8. *Plectranthus leiperi*. A. apical portion of mature flowering stem × 0.6. B. leaf lamina viewed from above × 1. C. leaf lamina viewed from below × 1. D. vertillaster × 3. E. flower viewed from side × 6. F. flower viewed from front × 6. G. fruiting calyx viewed from side × 6. H. nutlet × 30. All from live material of *Forster* 13348 *et al.*. Del. W. Smith.

and is often visited by groups of people partaking of the pleasures of the swimming hole. There are a few indistinct tracks through the *Plectranthus* populations and the area is visited from time to time by bushwalkers and plant enthusiasts such as members of the Society for Growing Australian Plants. The locality is supposedly to be flooded due to construction of a proposed water supply dam, although the extent that this will affect the populations of *P. leiperi* is not known. There are a lot of individuals of the *Plectranthus* present, but the total area of the populations would not be greater than several hectares. At the Crossdale locality, the plants were recorded as locally restricted and uncommon on a rocky knoll under a powerline. A suggested conservation coding is 2V.

Etymology: The specific epithet honours Glen Leiper of Beenleigh, environmental educator and a keen amateur botanist. Glen discovered and made the first collection of this species.

9. Plectranthus megadontus P.I. Forst., **sp. nov.** affinis *P. grato* S.T. Blake a qua foliis carnosis, petiolo graciliore (1–2 mm lato), lamina folii dentata, dentibus in ambobus marginibus (lateralibus) 6–9 et 4–6 mm longis differt. **Typus:** Queensland. Cook District: Rocky River Scrub, eastern fall of McIlwraith Range, 16 Jun 1992, *P.I. Forster* 10637A, *M.C. Tucker & G. Kenning* (holo: BRI [2 sheets + spirit); iso: K, L, MEL, QRS distribuendi).

Subshrub to 20 cm high; foliage slightly scented; non-glandular and glandular trichomes uncoloured, sessile glands 8-celled and yellow. Stems square, erect to straggling, the lower parts woody and up to 10 mm thick; seedling derived stems lacking a tuberous base; upper parts with sparse, antrorse 6–8-celled non-glandular trichomes to 2 mm long, without glandular trichomes and with sparse sessile glands. Leaves discolorous, petiolate; petiole 2–27 mm long, 1–2 mm wide, with sparse, antrorse 6–8-celled non- glandular trichomes to 1 mm long, with scattered glandular trichomes to 0.3 mm long and with scattered sessile glands; lamina narrow-ovate to triangular, fleshy, 12–55 mm long, 9–35 mm wide, deeply serrate with 6–9 teeth on each margin and with 1 or more secondary teeth; upper surface green, veins impressed, with sparse, antrorse 2–4-celled non-glandular trichomes to 0.3 mm long, without glandular trichomes and without sessile glands; lower surface pale green, veins raised, with sparse, antrorse 2–4-celled non-glandular trichomes to 0.2 mm long, without glandular trichomes and with sparse sessile glands. Inflorescence up to 20 cm long, comprising 1–3 pedunculate branches from near the base, each branch 7–15 cm long; verticillasters 8–14-flowered, 3–15 mm long; pedicels 3.5–4 mm long, c. 0.4 mm diameter, with scattered, divaricate 2-celled nonglandular trichomes to 0.1 mm long, with scattered glandular trichomes to 0.1 mm long and without sessile glands; cymes sessile; axis square in cross-section, with sparse, divaricate, 2-celled non-glandular trichomes to 0.2 mm long, with sparse glandular trichomes to 0.2 mm long and with scattered sessile glands; bracts broadly ovate, c. 1 mm long and 1 mm wide, not forming a coma, with sparse, antrorse 2–4-celled non-glandular trichomes to 0.2 mm long, without glandular trichomes and with scattered sessile glands. Flowering calyx 2.5–2.7 mm long, with sparse, antrorse 2-celled non-glandular trichomes to 0.2 mm long, with scattered glandular trichomes to 0.2 mm long and with scattered sessile glands. Fruiting calyx 4.2–4.5 mm long, with scattered, antrorse 2-celled non-glandular trichomes to 0.2 mm long, without glandular trichomes and with scattered sessile glands; upper lobe ovate, c. 2 mm long, 1.8–2 mm wide; lateral lobes falcate-triangular, c. 1.8 mm long and 1 mm wide; lower lobes lanceolate, 1.8–2 mm long, c. 0.8 mm wide. Corolla 9.6–10 mm long, light-purple; tube 4–4.5 mm long, abruptly curved at c. 90° 2–2.4 mm from base, slightly inflated upwards, glabrous; upper lobes subcircular, c. 1 mm long and 1.8 mm wide, with scattered, divaricate 2-celled non-glandular trichomes to 0.2 mm long, without glandular trichomes and with scattered sessile glands; lateral lobes oblong, c. 1.5 mm long and 0.8 mm wide, glabrous; lower lobe broadly oblong, 4.5–4.8 mm long, 3.5–3.8 mm wide, ± glabrous apart from a few scattered, divaricate 2-celled non-glandular trichomes to 0.2 mm long. Filaments filiform, 7–8 mm long, fused for c. 2.5 mm from base, purple; anthers

c. 0.4 mm long and 0.3 mm wide. Style filiform 7–8 mm long, purple. Nutlets ± circular in outline, ± flattened, c. 0.8 mm long, 0.7 mm wide and 0.5 mm thick, glossy brown, surface smooth. **Fig. 9.**

Specimens examined**: Queensland.** Cook District: Round Mountain, Embley Range, 13°33'S, 143°30'E, Jun 1992, *Forster* 10486 *et al.* (BRI); Chester River, 13°40'S, 143°25'E, Jul 1977, *Hyland* 9477 (QRS); Chester River Scrub, eastern fall of McIlwraith Range, 13°40'S, 143°29'E, Jun 1992, *Forster* 10445A *et al.* (BRI).

Distribution and habitat**:** Known from the eastern fall of the McIlwraith Range on Cape York Peninsula. Plants grow at about 100 m altitude on granite rock slabs and pavements along the margins of rainforest. No other species of *Plectranthus* were observed in the localities visited by the author.

Notes**:** This species appears to have been collected first by Bernie Hyland in 1977. *P. megadontus* appears to be allied to *P. gratus* but differs from that species in its fleshy foliage, thinner leaf petioles (1–2 mm wide), leaf lamina teeth 6–9 on each margin and the much larger individual teeth (4–6 mm long). In comparison *P. gratus* has succulent foliage, thicker leaf petioles (4–4.5 mm wide), leaf lamina teeth 12–18 on each margin and much smaller individual teeth (2–3 mm long).

Conservation status**:** The eastern fall of the McIlwraith Range remains poorly explored and it is anticipated that further fieldwork should reveal additional populations of this species. A conservation coding of 2K is suggested at this stage.

Etymology**:** The specific epithet is derived from the Greek *mega* (large) and *dontus* (teeth) and refers to the large marginal teeth of the leaves in this species in comparison with those on most Australian species.

10. Plectranthus pulchellus P.I. Forst., **sp. nov.** affinis *P. arenicolae* P.I. Forster a qua habitu robustiore, lamina folii dentata, dentibus inambobus marginibus (lateralibus) 6–11, et floribus numerosioribus (12–16) in verticillastris differt. **Typus:** Queensland. Cook District: Wasp Gully, Glennie Tableland, Jul 1991, *M.C. Tucker* [AQ509442] (holo: BRI! [1 sheet + spirit]; iso: QRS!).

Subshrub to 30 cm high; foliage unscented; non-glandular and glandular trichomes uncoloured, sessile glands 8-celled and yellow. Stems square, erect to straggling, the lower parts woody and up to 1 cm thick; seedling derived stems lacking a tuberous base; upper parts with sparse, antrorse 4–6-celled non-glandular trichomes to 1 mm long, without glandular trichomes and without sessile glands. Leaves discolorous, petiolate; petiole 2–35 mm long, 0.8–1.1 mm wide, with sparse, antrorse, 4–6-celled non-glandular trichomes to 0.6 mm long, without glandular trichomes and without sessile glands; lamina narrow-ovate to triangular, fleshy, 12–65 mm long, 6–50 mm wide, deeply serrate with 6–12 teeth on each margin and with 1 or more secondary teeth; upper surface green, veins impressed, with sparse, antrorse 4–6-celled non-glandular trichomes to 1 mm long, without glandular trichomes and without sessile glands; lower surface pale-green, veins raised, with sparse, antrorse, 4–6-celled non-glandular trichomes to 1 mm long, without glandular trichomes and without sessile glands. Inflorescence up to 30 cm long, comprising 1–7 pedunculate branches from near the base, each branch 11–25 cm long; verticillasters 12–16-flowered, 6–11 mm apart; cymes sessile; axis square in cross-section, purple, with sparse, divaricate, 2-celled non-glandular trichomes to 0.1 mm long, with sparse glandular trichomes to 0.1 mm long and without sessile glands; bracts broadly ovate, 1.7–2 mm long, 1.5–1.7 mm wide, not forming a coma, with sparse, antrorse, 2–4-celled non-glandular trichomes to 0.4 mm long, without glandular trichomes and with an occasional sessile gland; pedicels 5–6 mm long, c. 0.3 mm diameter, with scattered, antrorse, 2-celled non-glandular trichomes to 0.1 mm long, with scattered glandular trichomes to 0.1 mm long and without sessile glands. Flowering calyx 3–4.7 mm long, with scattered, antrorse 2-celled non-glandular trichomes to 0.1 mm long, with scattered glandular trichomes to 0.1 mm long and with an occasional sessile gland. Fruiting calyx 3–4.6 mm long, with scattered, antrorse 2-celled non-glandular trichomes to 0.1 mm long, with scattered glandular trichomes to 0.1 mm long and with scattered sessile glands; upper lobe ovate, 1.5–2 mm long, 1.4–1.8 mm wide; lateral lobes falcate-triangular 0.8–2 mm long, 0.7–0.9 mm wide; lower lobes lanceolate,

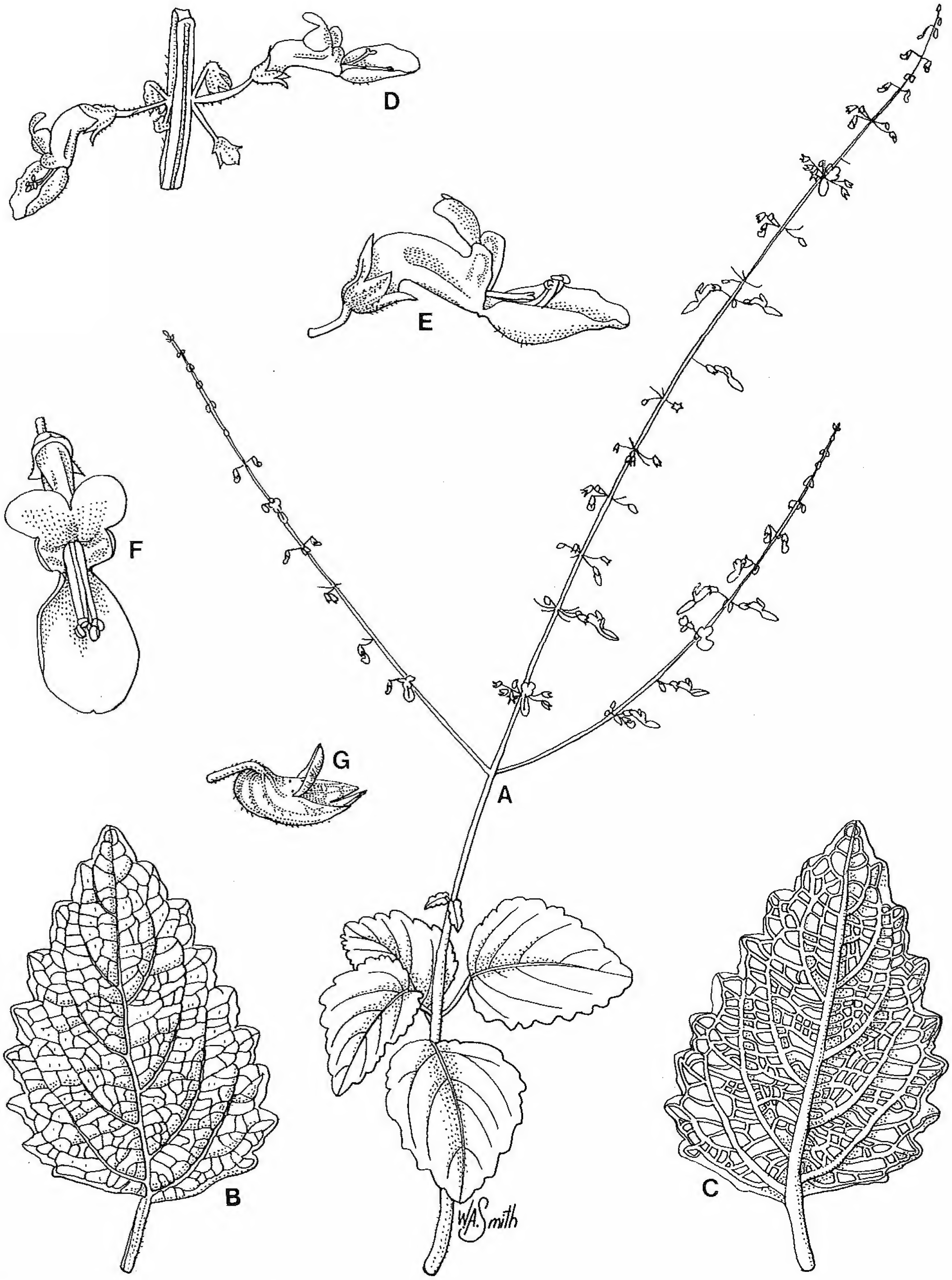

Fig. 9. *Plectranthus megadontus*. A. apical portion of mature flowering stem × 0.6. B. leaf lamina viewed from above × 1. C. leaf lamina viewed from below × 1. D. verticillaster × 2. E. flower viewed from side × 4. F. flower viewed from front × 4. G. fruiting calyx viewed from side × 4. All from live material of *Forster* 10637A *et al.*. Del. W. Smith.

1.5–2.1 mm long, 0.5–0.7 mm wide. Corolla 9.4–10.2 mm long, light-purple; tube 4.5–5.2 mm long, abruptly curved at 90–110° 2–2.3 mm from base, slightly inflated upwards, glabrous; upper lobes subcircular, 1.8–2 mm long, 1.5–1.7 mm wide, with scattered, divaricate, 2-celled non-glandular trichomes to 0.2 mm long, without glandular hairs and with scattered sessile glands; lateral lobes oblong, 2–2.2 mm long, 0.8–1 mm wide, glabrous; lower lobe broadly oblong, 4.5–5 mm long, 3.2–3.5 mm wide, with scattered, divaricate 2-celled non-glandular trichomes to 0.2 mm long, without glandular trichomes and with occasional sessile gland. Filaments filiform, 7–8 mm long, fused for c. 4 mm from base, pale lilac; anthers c. 0.5 mm long and 0.3 mm wide. Style filiform, 7–8 mm long, pale lilac. Nutlets ± circular in outline, ± flattened, c. 0.8 mm long, 0.8 mm wide, 0.5 mm thick, glossy brown, surface smooth. **Fig. 10.**

***Specimens examined*:** Known only from the type collection.

***Distribution and habitat*:** Known only from the Glennie Tableland on Bromley Station, far north Cape York Peninsula where plants grow on sandstone clifflines.

***Notes*:** The type collection of *P. pulchellus* was incorrectly listed under *P. arenicola* P.I. Forster in my previous paper on *Plectranthus* (Forster 1992c). *P. pulchellus* differs most noticeably from that species in its more robust habit, greater number of leaf teeth (6–11) on each margin and greater number of flowers in the verticillasters (12–16). *P. arenicola* is less robust in its habit, has 3–6 leaf teeth on each margin and 10 flowers in a verticillaster. *P. pulchellus* is also allied to *P. apreptus* but differs from that species in its more robust and fleshy habit, lack of glandular trichomes and sessile glands on the under surface of the leaf, and the shorter fruiting calyx (3–4.6 mm long). *P. apreptus* has a weak mesic habit, has glandular trichomes and sessile glands on the undersurface of the leaf and a longer fruiting calyx (4.5–5.5 mm).

Conservation coding: The area of occurrence of *P. pulchellus* is extremely remote and poorly explored; however, there are some minor threats to its existence such as geological exploration or proposed 'space bases'. Other endemic plants in the area include *Argophyllum verae* P.I. Forst. (Forster 1990) and *Cyathea exilis* Holttum (Bostock 1991). A suggested conservation coding for *P. pulchellus* is 1K.

***Etymology*:** The specific epithet is derived from the Latin *pulcher* (beautiful) and alludes to the attractiveness of this plant.

Acknowledgements

This research was made possible only by the continuing interest and assistance both with fieldwork and new plants by various people, especially A.R. Bean, L.H. Bird, D. Fell, P. Grimshaw, D. Halford, G. Leiper, D. & I. Liddle, D. Orford, G. & N. Sankowsky, E.J. Thompson and M.C. Tucker. The illustrations were drawn by W. Smith (BRI). The live collection of plants was maintained over various protracted absences on fieldwork in 1990–1993 by S. Crane. Translation of the diagnoses into latin were kindly undertaken by L.A. Craven (CANB). Useful comments on the manuscript were provided by both referees.

References

Blake, S.T. (1971). A revision of *Plectranthus* (Labiatae) in Australasia. *Contributions from the Queensland Herbarium* 9: 1–120.

Bostock, P.D. (1991). PLANT PROFILE: *Cyathea exilis* Holttum (Pteridophyta: Cyatheaceae). *Austrobaileya* 3: 565–567.

Briggs, J.D. & Leigh, J.H. (1988). *Rare or Threatened Australian Plants*. 1988 Revised Edition. Australian National Parks and Wildlife Service Special Publication No. 14. Canberra: Australian National Parks and Wildlife Service.

Forster, P.I. (1990). *Argophyllum verae* (Saxifragaceae), a new species from northern Queensland. *Austrobaileya* 3: 173–176.

——— (1991). *Plectranthus arenicolus* (Lamiaceae), a new species from Cape York Peninsula, Queensland. *Muelleria* 7: 375–378.

——— (1992a). A taxonomic revision of *Tylophora* R. Br. (Asclepiadaceae: Marsdenieae) in Australia. *Australian Systematic Botany* 5: 29–51.

——— (1992b). *Plectranthus blakei* (Lamiaceae), a new species from central Queensland. *Muelleria* 7: 417–420.

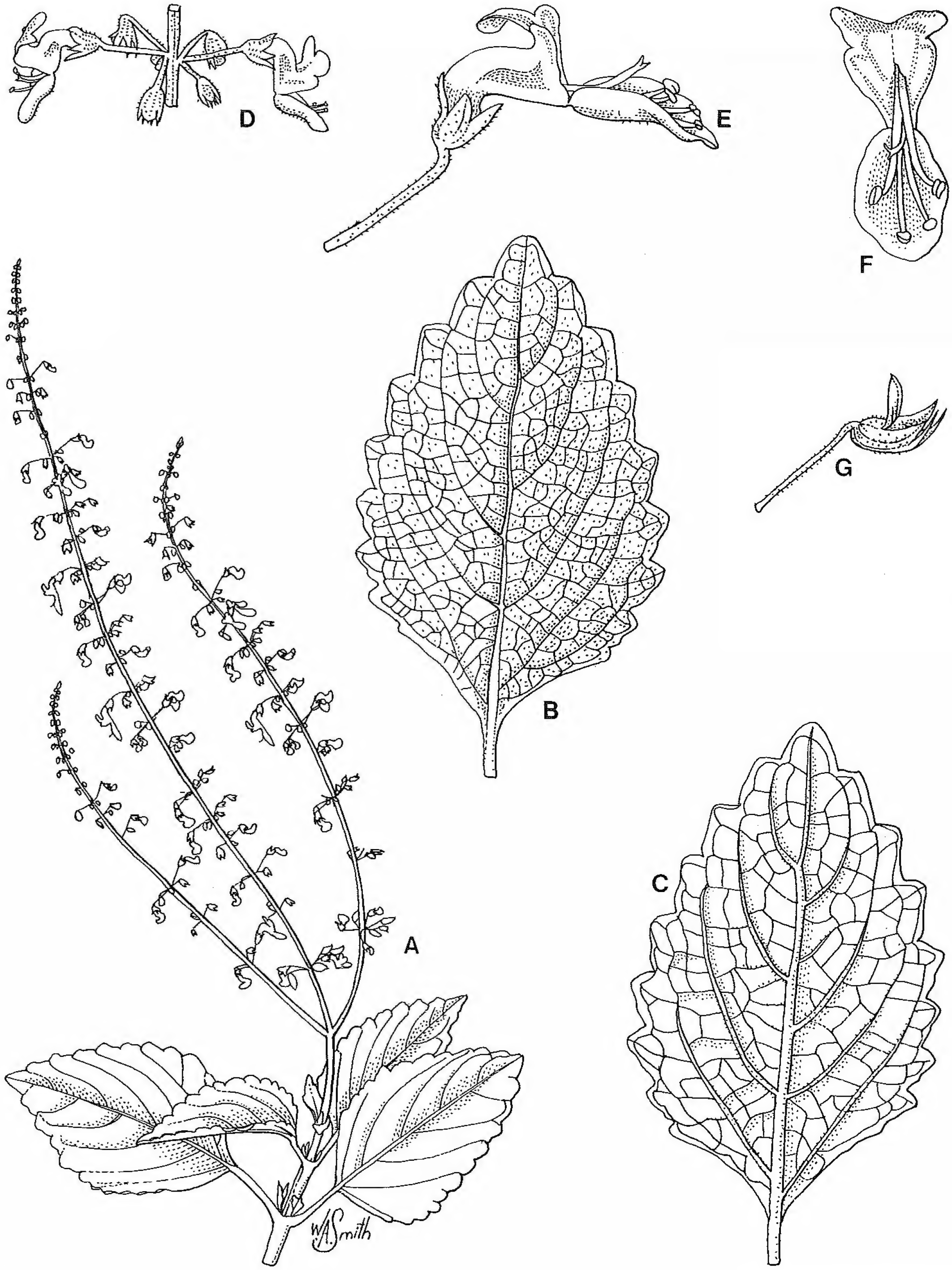

Fig. 10. *Plectranthus pulchellus*. A. apical portion of mature flowering stem × 0.6. B. leaf lamina viewed from above × 1.6. C. leaf lamina viewed from below × 1.6. D. vertillaster × 2. E. flower viewed from side × 4. F. flower viewed from front × 4. G. fruiting calyx viewed from side × 4. All from live material of *Tucker* s.n. (ex Wasp Gully, Glennie Tableland). Del. W. Smith.

——— (1992c). Five new species of *Plectranthus* L.'Herit (Lamiaceae) from Queensland. *Austrobaileya* 3: 729–740.

——— (1994). Lamiaceae. In R.J.F. Henderson (ed), *Queensland Vascular Plants: Names and Distribution* pp. 152–156. Brisbane: Queensland Department of Environment & Heritage.